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THE
NEW YORK
DENTAL RECORDER,

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

EDITED BY
J. S. WARE, M. D., DENTIST.

VOL. I.



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PROSPECTUS.

The advancement of Science generally, and of the means for the happiness and improvement of the human race, have been such as to induce the closest attention to whatever may have a tendency to perfect the one, or to increase and expand the other. It is thus that the properties of things, and the laws which govern them, are continually being developed—forming the basis of new facts in science, and new principles in art. It is thus that the human system, with all its complications, relations, and dependencies, is made the subject of philosophical investigation, till the causes, physical and moral, that pertain to it, are unfolded and understood—and the science of life, the means of health, the causes of disease, and the art of cure, are found to be established on *fixed* and *immutable* principles.

Commensurate with this advancement, especially in Chemistry and Therapeutics, has been that of the *Dental Art*—an art, but just beginning to be appreciated in its *bearings* and *relations* to the health of the constitution, causes of disease, and the obstacles to cure; to expose and illustrate which—to advance the interest of the profession—to defend and perfect the art—to afford a channel of communication of facts, principles, and opinions to its professors—is the object of the "*Dental Recorder*."

While we devote to its services whatever of time or talents we may command, we shall hope to enlist the co-operation and liberal patronage of our brethren in the

profession—upon whom, after all, will greatly depend our success.

We propose to publish the "*Recorder*" *monthly*—at One Dollar a year, *in advance*; and while we shall endeavor to make it useful to the profession, we shall also strive to make it interesting to the general reader, by showing the importance of *EARLY* and careful attention to the Diseases of the Teeth, as connected with the production of, or dependant upon other diseases, and the means of prevention—together with considerations of sound health.

While we hope to be sustained in this enterprise, we are quite sure that our art must be made instrumental in developing the principles, and making apparent the measures for the eradication of disease, and the *physical* and *moral improvement* of the human race.

In the second number we shall commence the examination of the several materials used for filling teeth; and will give, from time to time, the value of each, from practical cases.

However much we may differ from our brethren on subjects connected with the Dental Profession, yet those who may not think as we do, will always be treated with respect—and their *opinions*, not the men, made the subject of investigation.

Particular attention will be given to the *practical* as well as *theoretical* department of Dentistry; and all new Publications as fully reviewed as the limits of this work will allow. In fact, it is intended to be a "*Recorder*" of all passing events of any interest to the practical Dentist.

THE DENTAL PROFESSION,

As it is, and as it should be.

The Dental profession is considered by the majority as merely mechanical; and hence the operator that can fill a plain cavity or insert a tooth, so that it has a fair appearance, is believed to have attained the perfection of his art. With such "believers" for his patients, a Dentist of a few weeks' practice will find little or no difficulty, "*if he works cheap*," to have plenty of business—for the cry of "cheap" is the order of the day. But the Dental profession is not confined, like the sculptor's, to art alone. The teeth are living members, and when the dental skill is required for their preservation or removal, they are in a diseased condition; therefore something more is necessary to be understood, than that there is a cavity to be filled, or tooth to be extracted. The character and type of the disease must first be understood, before a successful plan of treatment can be adopted. The general condition of the patient's health must not be overlooked; for, although the derangement of the constitution is the most apparent cause; yet the disease of the teeth may produce the derangement in the system. Hence a perfect knowledge of these facts is an indispensable qualification for a dental practitioner. Thousands of teeth are annually sacrificed on the altar of ignorance; and the only relief that is found by many, after years of intense suffering, is in the grave. But, were the dental practitioners qualified as they should be, they would indeed be the *Good Samaritan* to the afflicted.

There are many in the profession who have the unlimited confidence of the public, and yet are nothing more than good mechanical workmen. A certain class of the diseased teeth may be saved by a good mechanic. But there is another class that his skill fails to preserve, or benefit; and it is in such cases that the services of the Dentist are most called for, and appreciated; for they are oftener to be found in persons of feeble and nervous constitutions;

and as long as the nervous system is irritated by the diseased condition of the teeth it is impossible to restore the general health.

That teeth may be, and often are filled so as to preserve them from decay, by a Dentist who is ignorant of their pathology, we do not deny; but it is an important question, whether such a Dentist is prepared to successfully arrest the progress of disease in the great variety of cases that may be present, either in the teeth, or nervous system connected with them.

The failure of many dental operations which have been mechanically well performed, is undoubtedly owing to a want of *pathological knowledge*; for, the *treatment which is successful in one class, is not adapted to another*: hence the importance for a Dental practitioner to possess such knowledge as will enable him to apply the remedy called for, in the case presented for the exercise of his professional skill.

The amputation of a limb, and all other surgical operations, are literally *mechanical*, and without the possession of a nice mechanical skill by the surgical operator, he will fail to do justice to his patient.

But, is this mechanical skill the only qualification necessary for a surgeon? By no means: other knowledge is indispensable, for the successful practice of a surgical operator. Anatomy, and Pathology, or the Doctrine of Diseases, must go hand in hand with mechanical skill, or the surgeon will meet with insurmountable obstacles in almost every case.

Hence the failure of so many surgical operations, and the happy termination of the few.

A surgeon may be master of Anatomy and Pathology, and yet lose his patient through the want of mechanical skill. It requires the concentration of the three—Anatomy, Pathology, and Mechanical Skill, in one individual, to qualify him for the high and honorable duties of a surgeon; and the same qualifications are necessary for every Dental practitioner; therefore so few, when compared with the number in the field, ever attain to such a state of

perfection, as to entitle them to the confidence and respect of the people.

To impress more permanently upon the public the importance of making a greater distinction between Dental practitioners of superior or inferior qualifications, I will give one or two cases illustrating the practical effect of the two classes; and the first case shall be one which the public consider wholly mechanical, therefore they believe that the Dentist needs no other information to perform this branch of his profession.

Case 1.—A lady calls upon the mechanical Dentist for a full set of upper or lower artificial teeth, having in her jaw the roots of many teeth. The lady asks the question, how soon after the roots are extracted can she have the artificials. The Dental operator informs her, that he can finish them in two weeks, or as early as the gums are healed where the roots must be extracted; and that it ordinarily takes about that time, before the mouth will be in a suitable condition to receive them. The roots are extracted, the artificials finished; and at the expiration of the two weeks, put into the mouth. The fit and workmanship pronounced very good; and, *for a time*, the teeth operate *well*; but, after the lapse of two or three months, the artificials are any thing but a comfortable companion. She returns to the Dentist—and, on examination, it is found that the fit is a bad one. Every effort is made to adapt the plate to the mouth—but in vain; for the alteration of the plate only increases the difficulty; and finally, the Dentist acknowledges that he cannot remedy it: and, in order to cover his own *quackery*, charges all of the blame to the jaws, for having altered the condition of their surface, since the teeth were placed in the mouth, and the lady has the *agreeable* information, that her teeth are worthless, except to look at.

In this case, the mechanical part of the operation was well performed—for the fit, when first put into the month, was good; but it was beyond the skill of the mechanical Dentist to understand why the plate did

not fit as comfortably, two months after, as it did on the day the teeth were finished. If this Dentist had been something more than a mechanical workman—understanding the *immutable laws** of the human system—he would have been prepared for her operation, and not subjected himself to the mortification, and the lady to the loss of her artificial teeth, and *confidence in the dental art*.

Case 2.—A gentleman, whose teeth contain too large a proportion of animal matter, therefore are pre-disposed to disease of a peculiar type, calls on the mechanical Dentist to have one of his teeth filled. On examination it is found to be in a state of acute inflammation, and the disease to have penetrated almost to the dental nerve. In this condition of the tooth, the mechanical Dentist commences his operations, regardless of the pain he inflicts; and, after removing the diseased portion, fills the cavity with gold, forcing it in, to the full extent of his power. The consequence of this operation is, that the inflammation is not allayed, but increased—and the loss of the filling, and perhaps the tooth, follows, before the patient is relieved from the severity of his sufferings.

Now if the mechanical operator had understood the doctrine of disease as connected with the teeth, he would not have commenced the surgical part until he had first removed the inflammation, when his operation would have been painless, and the tooth saved.

Many, and I might say, almost all Dentists, consider any effort to preserve a tooth that cannot be saved by a mechanical operation *alone*, as *quackery*; therefore, the *wholesale* operation of extracting every tooth that has an exposed dental nerve, or that does not come within the range of their

* After teeth have been extracted, it takes Nature at least three months, and in persons past middle age, longer, to absorb or carry away a portion of the sockets, and to form new bone to obliterate their cavities. This undeviating process of Nature, very much changes the surface of the jaws; hence a plate fitted immediately after the extracting of the teeth or the roots, cannot fit after a few months.

mechanical skill. But to whom is the name of *Quack* most appropriate?—to the man who preserves a bad tooth, or to him who refuses to make any effort to do so?

That a large number of teeth, which have hitherto been believed to be incurable, may, by medicinal treatment, be saved, and useful for many years, we have no reason to doubt—for the success of those Dentists who have adopted this mode of practice, has been greater than their most sanguine anticipations. Although their success has been great, yet it must not be supposed, that every tooth, however bad, will yield to this course of treatment—for the disease may have so far advanced before the counsel is asked, as to destroy its vitality; therefore the removal of the *dead* member from the *living* body, is the only remedy. Hence the importance of an early application to the profession, by those who have the misfortune to have decayed teeth.

The exposure of the dental nerve in the double teeth, does not necessarily prevent them from being filled, and useful for a long time. In some constitutions these teeth may last for twenty years—and in others, a shorter period ends their occupation with their fellows. We may fail to control the disease in some instances, but such cases are mostly confined to persons who have suffered from some severe mercurial salivation, or those pre-disposed to scrofula, or are in a feeble and nervous condition.

In treating this class of teeth, a record should be made of every case—stating minutely their condition, and the general health and age of the patient. This would form a key to correct practice, and improvement in the science, comfort and happiness of the unfortunate, for which we would ever receive their gratitude.

Why the beneficial effects of medicine, when applied to the diseases of teeth, should be denied, is truly strange, when we take into consideration the *fact*, that it has been used in all ages, to arrest the progress of disease in every other member of the body, and to alleviate human suffering.

AN APPEAL

To the Medical Profession, in behalf of Dental Science.

It is now but little more than twenty years since Dentistry has occupied a conspicuous position in the estimation of the public. During that time its practitioners, although steadily and rapidly increasing, have hardly kept pace with the public demand for operations upon the mouth and teeth.

Thirty years since there were but three or four competent dentists in the city of New York, and now we number more than *one hundred and twenty*. Nor is this surprising increase confined to our principal cities, they have come upon the land and overrun it like the locusts of Egypt, and the wonder is equally great whence they came and what their destiny.

It would indeed be strange, considering the rapid increase in the number of Dentists, together with the absence of all requisite qualifications before entering upon the practice, and the great want of public institutions where students can obtain proper instruction in the science and art of Dentistry, if there were not many persons calling themselves Dentists who possessed but few if any qualifications to entitle them to the confidence of the public. The importance of this subject and the great demand for operations upon the teeth are not surprising when we consider, such is the predisposition to decay of the teeth in our climate, that hardly an individual arrives at the age of twenty-one, without employing a Dentist or suffering from some disease of the mouth or teeth.

The connexion also between the diseases of the teeth and those of other parts of the system, is a subject which has been almost entirely neglected by practising physicians. We can safely say that in our opinion, most of the cases of *Neuralgia Facialis* have their origin in irritation about the fangs of the teeth, seldom discovered, except by the dentist, and within the last few years several cases of ulcers, opening externally on the base of the lower jaw, caused by

dead and irritating teeth, have come into our hands which had been for months, under the treatment of eminent physicians and surgeons for scrofula—on extracting the offending fangs, however, we had the satisfaction of seeing all the scrofula disappear, leaving only a deep and ugly cicatrix to show the ravages which the disease had made. Cases of nervous headache, pain and stiffness in the muscles of the neck and throat—diseases of the Antrum Highmorianum and frontal sinuses, dyspepsia, and many others, often owe their origin to irritation about the teeth, caused by some concealed disease in these organs.

Now, it is not strange that most of the causes of these diseases escape the observation of physicians and surgeons, when we consider that the simplest principles of Dentistry are not taught in any of our medical schools, if we except, perhaps, a superficial glance at their anatomy and physiology. The profession generally seem to be so conscious of their own inability to treat the diseases of the teeth that they have almost entirely abandoned them to the Dentist.

If the Dentists as a class, were as well educated to perform operations upon the mouth and teeth as the graduates of our medical schools are to treat diseases generally, there would be less cause of complaint. Dentistry belongs to the great science of medicine. She is one of her most beautiful handmaids, exceedingly skilled in cunning works, and for her maternal guardian to abandon her to the care of a class of men who are themselves unable to protect her from the insults of many among their number who so abuse and injure her reputation as to subject to suspicion all who are afterwards found courting her society, is in our opinion not only exceedingly ungenerous and unkind, but in opposition to the true interests of medicine.

Why should not Dentistry be taught in all our medical schools, as well as the diseases of the eye and ear, which are now, in our large cities, often treated by men

who confine their practice exclusively to these organs? We know that some have urged, as a reason why Medicine and Dentistry should be separated, that the latter is more fit to be ranked with the mechanic arts than with medicine and surgery; but we might as well say that operations upon the eye should not be embraced in Surgery, because glasses are often required afterwards, or that deformity and malformations should not be treated by the Surgeon, because mechanical fixtures are often necessary to perfect a cure as to say that operations upon the mouth and teeth are unworthy to be taught with Surgery, because so much remains for the mechanical dentist to do afterwards.

It is generally owing to the neglect of employing the Surgeon Dentist, or to his bad operations that so much remains for the Mechanical Dentist to execute. We are sure that if the operations upon the mouth and teeth from the age of second dentition were always performed when necessary and as well as they are capable of being done in the present advanced state of Dental Science, that there would be much less business for the artizan in connection with dentistry, than there is with many operations which are now considered purely surgical. The very fact that physicians and surgeons, from a want of a knowledge of the method of performing the nice and delicate operations upon the teeth, have disowned all connexion with Dentistry, and classed it among the mechanic arts, has induced many mechanics to assume the responsibilities of the Dentist without any of the requisite qualifications. In our opinion it is high time the profession came forward to aid in rescuing Dentistry from the unmerited contempt to which their own neglect has consigned it. In it they will find much room for deep thought and scientific reflection, and scope enough for the exercise of all their delicate tact and ingenuity of manipulation.

Let us see what would be the effect if each medical college were to establish a

Professorship of PRACTICAL DENTISTRY. In a short time it would produce a complete union between Medicine and Dentistry. All physicians would be nominally Dentists, and all dentists physicians. Nor would it be merely nominal, for it would be as impossible for the student of medicine to attend the lectures on dentistry through two courses and pass through the examination of the professor of this department without understanding enough of the science to make him, with subsequent study and practice, a skilful operator, as it would for him to receive the honors of the college without sufficient knowledge in surgery to practice acceptably in that department. It would increase the importance and the immolments of our medical schools, bringing into them many students who designed to confine their practice mainly to operations upon the teeth. It would, also, be of great service to the young practitioner to be able to earn something by performing operations in dentistry. Almost every established physician can remember the time when he would gladly have occupied some of his leisure hours in practicing upon the teeth, and when the reward of such labor would not have been unacceptable. It is often the case that a travelling dentist comes into a small town, and in a few weeks carries away more than the half yearly earnings of the physician, who has ample time to perform all the necessary operations upon the teeth in his neighborhood.

We by no means expect that all the graduates of our medical colleges would qualify themselves for skilful Dentists more than they now do for Surgeons. Many would not possess the requisite mechanical tact and ingenuity, and without this it is useless for any one to attempt the practice of dentistry—others would not possess a taste for this branch of surgery; but we do believe that enough desirous of practicing dentistry would be found among the students of medicine to supply, in a short time, all the demands for operations in this department. Thus we should, in a few years, find our country studded here

and there with a sufficient number of Dentists to perform skillfully all necessary operations upon the teeth in their immediate vicinity, as we now find here and there a Surgeon, able and ambitious to perform most of the surgical operations around him, his brethren from choice relinquishing this department to him.

Another good effect would be to put a stop to most of the unprincipled itinerants who are now travelling about the country, often with the recommendations of physicians in their pockets, procured before the worthlessness of their operations had been discovered, and gone when it is too late to repair the injury which they have done.

Besides the benefits which the medical practitioner would derive from a knowledge of dentistry, a union of this kind would be of incalculable advantage to those who desired to confine their attentions mainly to operations upon the teeth. It would elevate the Dentist greatly in the estimation of the public, who would have the assurance that he was what his title implied—a *Doctor of Medicine and Surgery*. He could then shake from his skirts the host of ignorant and unprincipled empyrics who now cluster 'round him, consigning them to the merited contempt of an indignant public—no longer blushing to find himself associated with impudence and falsehood, he could once more walk forth among men clothed in the dignity of honesty and truth, and emancipated from that greatest of curses which has afflicted mankind since the serpent entered Eden—the curse of bad company.

It would equalize the practice of dentistry, and put it upon a par with that of medicine—giving the Dentist power to collect his fees by due process of law, a right which it is doubtful whether he now possesses.*

In conclusion, we beg leave to entreat the members of the medical profession and

* A decision has lately been made in the highest court in France, denying this right to the Dentists in that kingdom; nor can we see what power they have under the existing statutes in this state, more than the Surgeon, whose operations are general.

especially the *Faculty* of our *Medical Colleges*, to take this matter into consideration. We should be glad to see all our medical schools supplied with professors competent to perform all the operations upon the teeth in the presence of their classes and to teach all the principles in *Modern Dentistry*. It would only be necessary to add one professorship, viz: that of *Practical Dentistry*. The professor of anatomy could easily demonstrate all parts important in Dentistry by extending his investigations more minutely to the teeth, and so in the departments of *Materia Medica*, Pathology, and Chemistry.

At present there is no *guide* or *guard* to the avenues to Dentistry, they are open to all, and we cannot account for the rapid increase in the number of Practising Dentists in any way but by supposing that many have come into the business without any instruction, indeed, such is known to be the case to almost every person in practice; nor do we see any way to prevent this unless the practice of dentistry can be again united to surgery and medicine, from which, in our opinion, it has been so unwisely severed. A.

On the Effect of Mercurial Medicines,
PARTICULARLY ON THE GUMS, AND FROM
 WHICH IS INFERRED THE NECESSITY OF
 A *particular* TREATMENT, IN ORDER TO
 RESTORE THEM TO HEALTH, WHEN THEY
 HAVE BEEN AFFECTED BY A COURSE OF
 MERCURIAL MEDICINE.

A celebrated author on this subject has remarked, that much has been written in favor of mercurial medicines—much to show the injurious consequences that have resulted from them; and as mercury in its various forms, has probably been the means of more good and of more evil than any other article in the *Materia Medica*, partiality and prejudice have been supported by facts. That it has often aggravated existing diseases, and produced new ones, and that it is not an unimportant part of the physician's study to learn to designate and remove the maladies which are caused by it.

Another has said, that among the numerous poisons which have been used for the cure or the alleviation of diseases, there are few which possess more active, and of course more dangerous powers, than mercury. Even the simplest and mildest forms of that mineral exerts a most extensive influence over the human frame; and many of its *CHEMICAL* preparations are so deleterious, that in the smallest doses they speedily destroy life. Accordingly, for some ages after mercury became an article of the *Materia Medica*, physicians recommended it only on the most urgent occasions; but, within a few years, medical practitioners seem to have overlooked the necessity of such caution, and to exhibit that medicine with very little scruple.

The *effects* of mercury are expressly mentioned, or virtually admitted, by every author, ancient or modern, who has directed its use; and it must appear very extraordinary, that its full influence should have been hitherto misunderstood, or at least not sufficiently regarded.

The *modus operandi* of the PREPARATIONS of mercury, exhibited either externally or internally for any length of time, is to increase the action of the heart and arteries, producing a certain metallic taste in the mouth, and is attended with a peculiar odour of the breath, different from what is ever perceived in natural diseases, and producing salivation, followed by emaciation and debility, with an extremely irritable state of the whole system.

When an increase of any of the ordinary secretions takes place during the course of inflammatory affections, the local complaints are relieved; but the excessive flow of saliva, in consequence of it, is accompanied with more or less local inflammation of all parts within the *mouth*. In some cases, besides the ordinary inflammation and ulceration of the gums, and loosening and final loss of the teeth, the tongue, moveable palate, &c. swell and ulcerate to a frightful degree.

The salivary glands are more susceptible of mercurial irritation than any other part

of the system; and hence an increased flow of saliva, with swelling or soreness of the gums, are generally regarded as the surest indication of constitutional mercurial action.

It may be difficult to determine by what means mercury produces its effect on the salivary glands, and on them generally sooner than on any other part of the system.

Dr. Cullen attempted an explanation of the subject, viz: that mercury has a particular disposition to unite with ammonical salts, and that such salts are disposed to pass off by the salivary glands more copiously, than by any other excretion.

The constituent principles of saliva in a healthy state of the body, appear to consist of water, which constitutes at least four-fifths of its bulk, mucilage, albumen, muriate of soda, phosphate of soda, phosphate of lime, and phosphate of ammonia.

Another hypothesis is that of Sir Gilbert Blane, who considers the salivary glands as one of the outlets for the *ramenta*, or the discharge of the bones, because lime is detected in the saliva and concretes on the teeth; and as mercury is known to produce an active absorption of the solids, it is conceived that the fact in some measure explains the effect on the salivary glands. Yet as the kidneys and other excretory glands also furnish outlets for the old particles of the body, and yet are not affected by mercury in the same degree as the salivary glands, this theory cannot be correct. The fact, however, remains the same, viz: that the mercury, whether it possesses a specific affinity or not for excretions of saliva, acts from some cause or other, more readily and powerfully upon them, than upon any other excretions whatever.

When mercury is given in small doses, and for a considerable length of time, so as to produce an *alterative* effect, it evidently operates through the medium of the circulation. Although its ultimate influence on the system when thus administered, is different from what it is when suddenly crowded to the extent of saliva-

tion, still its immediate effects will be found to differ only in degree.

Thus it appears, that when mercury is administered to the extent producing pytalism, and although the system is universally effected, yet, the excretions appertaining to the mouth, are, together with the gums, the principal and first visible appearance of a mercurial disease.

The gums are in the first place inflamed, sometimes so much so as to occasion the destruction of the inflamed part. From excessive action, the arteries are first enfeebled, and their vitality is destroyed; the blood coagulates in them, and gangrene is the consequence. But, in cases generally of more moderate inflammation, the vessels attached to the gums are, at the close of the inflammation, left in a weak and exhausted state; and this, under the most favorable circumstance, will occasion some absorption of them.

When the acrid nature of the excretions from the salivary glands, during pytalism, is considered, joined with inflammation of the gums, occasioning a deposit of matter on the necks and fangs of the teeth, we cannot be surprised at deep-seated disease which often follows, embracing the investing membranes; and it may well be conceived an ichorous puss will be generated, which will destroy the alveolar processes; and thus the teeth, gradually losing the support of those necessary parts, will, after a few years, more or less, become loose, and fall out.

The curative means for diseased gums and alveoli, are repeated operations at proper intervals, together with suitable applications for cleanliness.

Those operations are indispensable, and should extend to the extremity of the diseased parts, and be continued until the cure is effected, and which may require a time of several months.

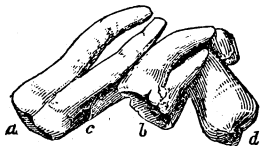
The disease of the gums is progressive: when once seated, it generally ends in the loss of the teeth, unless counteracted by the necessary skill. How important, then, that they be attended to properly and seasonably, especially after a course of mer-

cury. It would seem, therefore, that physicians should not think their duty complete, when the purpose of mercurializing is obtained, until they have recommended their patients to the attention of a competent Surgeon Dentist. B.



ANCHYLOSIS OF THREE TEETH.

BY GEORGE E. HAWES.



This engraving represents a case of union of three teeth in the left superior maxillary, viz: the first and second molar and *dens sapientiae*.

The first molar (a), had supported, for a considerable time, a set of artificial teeth, upon which the patient was entirely dependant for mastication: in consequence of this, the crown of the first molar (a), was drawn forward, and its roots crowded upon those of the second molar (b), and wisdom tooth.

This unnatural pressure upon each other occasioned much irritation: caries finally supervened where the clasp embraced the tooth at c, which became so painful that the usual operation of extraction was resorted to, when the existence of this anomaly was discovered.

The second molar (b), had been broken, in an attempt to extract it, nearly five years previous to the removal of these three teeth: during that period its fangs had remained in the jaw, occasioning frequent inflammation, and consequent suffering to the patient. The *dens sapientiae* (d), is still perfect, and had not even appeared when the attempt was originally made to remove the diseased tooth. This anomaly has been occasioned undoubtedly by the remaining portion of the diseased tooth, (aggravated, perhaps, by the unsuccessful attempt to extract it;) and, consequently, this curious deposition of osseous matter, forming an *anchylosis*, by which the three teeth are so firmly united.

We have been very politely furnished by MR. HAWES, of Park Place, with the above engraving, and his explanation of this curious artificial work of Nature.

The engraving represents the union of two teeth to the fangs of the third, which is in the centre, by a bony deposite on their fangs, or roots.

This cluster of teeth is indeed interesting to those who are in search of scientific truth. It is one more witness added to our number, that the destruction of the dental nerve does not kill the tooth, even where it has lost its crown—or that portion of the tooth above the gums; for in this case it will be perceived, that the new formation of bone is as firmly attached to the fangs in the centre, as to the whole or perfect teeth—which positively proves that the fangs with *dead dental nerves* possessed vitality; for if the fangs had been dead, there could not have been any union, or attachment of new osseous matter to their surface.

This singular union also teaches us, that nature is not ignorant of the law of expediency; and that she listens to her wise counsels, and obeys them, whenever a proper case is presented; and it is the duty of every Dental Practitioner to follow her example—for it is the judgment and skill to apply this law in appropriate cases, that gives superiority in practice to one professional gentleman over another.

We have before us, in the above engraving, two whole teeth and the roots of another, all joined together by exostosis, and no trace of the alveolar or partition between them to be found; and the bony deposite which unites them is not confined to the points of their union, but it covers the surface of all the fangs, and unites them as firmly as if they were originally but one tooth. This new deposite of bone partakes more of the teeth than the alveolar.

To understand why nature cast off a portion of the original bone, and then poured out an extra deposite of new, it will be necessary to give a minute history of the case—which will be furnished in our next number.

Proceedings of the American Society of Surgeon-Dentists.

This Society held its Annual Meeting on the first Tuesday of August, and remained in session during the whole of four days. The meeting was *unusually* stormy and discordant, although its former meetings have not been remarkable for unity of purpose and harmony of feeling. The difficulty in the meeting which has just taken place, grew out of hasty and injudicious proceedings at former meetings, upon the subject of the use of Amalgums for filling teeth. For several meetings previous to the one held in 1845, the Society had passed strong resolutions against the use of Mineral Paste—pronouncing it malpractice; but, as some of its members still persisted in exercising their own opinions, and practicing accordingly, it determined to rid itself of all who remained so stubborn and disobedient. To effect this, the Society passed a resolution, making it the duty of the Recording Secretary to issue to every member a protest against Amalgums—pronouncing them unfit and dangerous—demanding him to sign it, and pledging himself never to use it in his practice, under the penalty of expulsion. This was to be signed, and returned to the Secretary within sixty days from the time of issuing the protest. This seems to have been more than the members could well swallow and digest; accordingly it appeared from the Report of the Secretary, at the late meeting, that of all the members, *seventy-two* had signed it, and *sixty-one* had neglected to do so. Some had refused, giving their names, but most of them had taken no notice of it.

Here was a sad dilemma: nearly one-half the members neglecting to obey the commands of their Society, and some of them absolutely refusing! Those of the *sixty-one* represented in the Society, contended that the *seventy-two* had acted unconstitutionally, and claimed that they were still members, and entitled to take part in the proceedings of the Society. It was so decided by the President—and some of them were immediately appointed

on an important committee: but, at a subsequent stage of the proceedings, this decision of the President was overruled by the Society, and they were declared *not* to be members. After three days had been spent, however, in useless and angry discussion—most of the time upon this subject—a majority of the Society present at the meeting, finding that the *sixty-one* had the best of the argument, and disliking to take the responsibility of expelling many of their best members, finally had the magnanimity to retrace their steps—repealing the obnoxious resolutions of 1845, and again declaring the *sixty-one* bona-fide members of the “American Society of Surgeon-Dentists.” Thus, after playing shuttlecock with the *sixty-one*—bating them in and out of the Society for three days—they were finally left in the same position which they occupied previous to the meeting of 1845; the Society ordering the Secretary again to issue the same protest, (excepting only the word “*dangerous*,” which was ordered to be stricken out,) to such of the *sixty-one* as have not since signed it—and which we believe includes only four or five—again requesting them to sign it, or return it with objections; all of which are to be laid before the Society at its next Annual Meeting.

On this subject of Amalgums, and the action of the “American Society of Surgeon-Dentists,” we shall have much to say in subsequent numbers of the *Dental Recorder*: at present we will only remark, that if the *sixty-one* have gained a signal victory over the *seventy-two*, (and that they have, there can be no doubt,) the *seventy-two* have certainly achieved a still greater, for they have triumphed over themselves. Seeing the false position into which their prejudices had hurried them, they have had the wisdom and magnanimity to retrace their steps, and do justice to those members who bravely stood for their rights and principles. We have certainly some hope yet of the “American Society of Surgeon-Dentists!”

After amending their Constitution, and electing their Officers for the ensuing year,

the Society adjourned, to meet on the first Tuesday in August, 1847, at Saratoga Springs. We presume they have felt the need of the cooling effects of those sparkling waters during the last two meetings—and we sincerely hope they may experience them at the next.

SECOND DENTITION.

The importance of early attention to Children's Teeth during the process of second dentition, has been to a very great degree overlooked, both by parents and guardians, as well as by many in the profession.

The benefit derived from a correct course of practice during this period, is three-fold, and all of much value, not only in childhood, but through *life*.

1.—It preserves the primary teeth from disease and loss until the proper time for their removal—thereby permitting the child to masticate with them—which is one of the great means to secure health; for food in solid masses is more difficult to *digest*, than when well masticated; and if the stomach is not able to dissolve any solid substance, it irritates and inflames not only the stomach, but the intestines, creating a disease that may not be easily controlled.

There cannot be any doubt, in the mind of an observing Dental Practitioner, but that the want of well-masticated food, lays the foundation of many *fatal diseases*.

2.—The preservation of the primary teeth will prevent their becoming painful, and the diseased teeth producing an irritable state of the nervous system, and, perhaps, a diseased condition.

Where there is but a single tooth that has become painful, the child, while masticating, is in a state of nervous excitement, for fear that some hard portion of its food may be suddenly forced into the cavity of the tooth, producing severe suffering, from which the matured nervous system of manhood recoils at the very mention, with horror.

If such a condition of the teeth, startle and usman the matured nervous system,

what must be the effect on the young and sensitive? Chide not, then, the little sufferer, when she moans, and separates herself from her companions, and refuses to participate in her accustomed enjoyments, for the only reason that she has an *aching tooth*.

To secure the general health of the young, it is indispensable that the mind and body should be kept in a quiet, harmonious union,—without which, there will be a *feebleness*, that will grow with their growth; and if they arrive at the age of maturity, they will find themselves with a constitution that is susceptible of the finest impressions, and that the unexpected rustling of a leaf passes with the velocity of electricity through their whole frame; and they are truly what the world calls "*nervous persons*."

3.—It preserves the dental family from any loss in their social circle, and restores to health the temporary illness that may attack any one of its members, and keeps them standing in beautiful order, clothed in their white robes, always ready to obey the commands of their superior.

It is a common practice with many parents to take their children to the Dental Surgeon, to have their primary teeth extracted at an early day, with the expectation that it will prevent any irregularity in the growth of the adult teeth; and the Dental Practitioner believing with the parent, that the early extraction of the primary will secure to the child a beautiful dental arch or circle, often makes wholesale business of extracting; thereby turning beauty into deformity—for there cannot be any surer plan adopted to produce an irregular set of the adult teeth, than the *too early* removal of the primary.

Whenever the first set are extracted before the *appointed* time, much unnecessary suffering, and a contracted dental arch, are the undeviating consequences; therefore, there is not room in the small circle for the full development and regular growth of the adult teeth: hence they make their appearance in a zigzag form, and grow into every shape but beautiful.* Great

deformity is not the only evil resulting from this kind of practice: the severe pressure of the teeth against each other, in consequence of the irregularity, produce early decay, and loss of the permanent set.

The primary teeth should never be extracted until nature puts forth her *sign* for their removal,† which to the Dental Surgeon, who understands her laws, cannot fail to be understood; and if obeyed, a regular set may be obtained.

Notwithstanding a regular set may be obtained in the observance of the natural laws of the teeth, yet, owing to some derangement in their operations from hereditary or other causes, she does not always grow teeth in exact proportion to the circle of the jaw; and where the teeth are too

* The two central incisors are the first of the infant teeth which are shed; and when they are removed to give place for the adult, it is often found, that the space between the other teeth appears too small to admit of their full development, and they make their appearance almost crossways of the circle of the jaw. To remedy this deformity, the child is taken to the Dentist, and the adjoining teeth are extracted, (as is said,) to make room for the two new or centre ones. It is true, that a larger space is thus obtained; but does it increase the whole circle of the jaw, so that it will give sufficient room for the two adult teeth which are to supply the place of those that have been extracted? No, it does not; but, on the contrary, it contracts the whole circle, and produces still greater deformity when the two adult teeth make their appearance—for the two central teeth have separated, occupying, to a greater or less degree, the places of the adjoining that have been removed: therefore there is no other alternative for the lateral incisors, but to grow either on the out or inside of a circle.

† It may with propriety be asked, what is to be done, when the front teeth grow uneven. Let them alone, until all of the adult front, and first bicuspid teeth, are through; then, if there is any irregularity, extract the first bicuspid, and nature will in most cases, without the assistance of art, finish the work, and leave the teeth in their *natural order and beauty*. It frequently happens, that when the front teeth commence growing uneven, if they are not meddled with, the circle of the jaw will enlarge sufficiently to permit the teeth to return to their places; but if nature does not correct the irregularity by the time the first bicuspid are through, then let art commence her operations, and complete that which nature has failed to perfect.

large for the circle, they will be unavoidably uneven. In such cases, *art* steps in, and makes the *crooked, straight*. But art should never interfere, until nature invites her assistance; then, if her operations are correctly performed, the most happy results will follow.

Whenever the operation of the laws that govern the teeth are not interrupted, in the removal of the infant, and growth of the adult, the roots and alveolar, or sockets, of the infant, are absorbed, (or carried away,) as fast as the adult grows; therefore the infant teeth have no roots when the appointed time arrives for their removal. But let those laws be interfered with by an improper diet, or the want of out-door exercise, inactivity of the absorbent vessels follows, and the roots of the first teeth are not carried away as fast as the second grow: hence they make their appearance at one side; and whenever the adult make their appearance, the corresponding infant should be removed, without any reference to the condition of their roots.

The primary teeth are many times diseased. In all such cases, if there is a liability of the disease penetrating to the nerve, before the expected time of their removal, the diseased portion should be carefully cut away, and the cavity filled; and if the operation is early, and well performed, it will preserve them until nature designs they should be extracted, to give place for the adult.

(To be continued.)

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to ASAHIEL JONES, General Agent, 263 Broadway.

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The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe, that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the CHILDREN'S DEPARTMENT, which is an important branch of Dental Science.

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol. I. : : : : OCTOBER 1, 1846. : : : : No. 2.

Treatise on Second Dentition.

Continued from page 12.

The benefit in thus preserving the primary teeth, is very great: it saves the child much suffering from teeth-ache, and makes them useful instruments for *mastication*; without which, the child seldom enjoys a continued state of health. Perfect mastication of food is all-important, either for the child or one of mature years: it also keeps the jaw expanded until the appropriate time arrives for their removal; thus preserving the dental arch in beautiful symmetry.

The first adult molar, or double teeth, make their appearance between the ages of six and seven. These teeth often decay very early; and, as they are sometimes believed to be the primary, therefore no effort is made for their preservation; and if they become *painful*, extraction is the only remedy adopted. These teeth should be frequently examined—and whenever disease attacks them, no pains should be spared to arrest its progress, for they hold an important office in the process of mastication during life: and although they are so important and useful members of the dental family, there are to be found many in the Dental Profession, who recklessly extract them, whenever requested to do so by parents or guardians, regardless of the immediate suffering, and lasting injury, they inflict on their little patient.

We have at the present time several children under my care, who have not passed

the age of ten, and yet they all have lost a greater or less number of their adult double teeth, and their parents were not aware that any but their primary had been extracted. These are not isolated cases; thousands of this class of adult teeth are annually sacrificed on the altar of quackery, and will continue to be, until parents and guardians are more careful in selecting a well-qualified Dental Practitioner.

There has been great neglect on the part of parents in attending to the health of the first set of teeth,—the almost universal impression is, that the first set require no care, because they are to be shed, to give place for the adult; therefore, if disease attacks them, their removal is believed to be the only remedy necessary.

That parents, should reason in this manner is not very strange, for they look only to the *fact*,—if they are extracted, the adult will occupy their places; therefore it is immaterial whether they are removed at an earlier, or later period, but for any one in the practice of Dental Surgery to advise to such a course, is an unpardonable offence against the laws of nature and humanity; is it to be supposed, that the Creator formed childrens' teeth in vain or that he made them for a day, and then to be removed by *art*,—or to make *subjects for the ignorant to practise upon*? No; their production, and time of removal, is governed by law, and their use during this period is very important to the child, both as a masticating and articulating apparatus;—to this may be added, beauty of ex-

pression, that is ever given to the countenance, when the lips are parted with a smile. Articulation, or the formation of words by the child, is wholly dependant upon the teeth; it makes no progress in imparting to others its thoughts, until after the cutting of a number of its front teeth, and its power of speech progresses in proportion to their appearance.

If it is good logic to extract the first set of teeth when they are diseased, because nature will cast them off at some future day, then may we, with equal propriety, refuse to heal the sick, for all must die sooner or later, and why not in childhood, before many years of care and sorrow has overshadowed their brow. But, no; our lives are not at our disposal; we are in duty bound, not only to protect and preserve them, but each member of our body, for every one is important to give grace, beauty and comfort, to the whole. The perfection, and adaptation of the shedding of the first teeth, and the growth of the second, to the wants and necessities of the child, clearly teaches the importance of our fostering care, until nature desires their absence. If the first set of teeth were not essential to the child, they would not have been created; therefore to say, that they may *without injury or inconvenience*, be removed before their appointed time, is charging the Creator with great imperfection. The beautiful arrangement of the first set of teeth, which are adapted to the small circle of the child's jaw, and the process of their removal in small numbers, to prevent a too sudden and great change at one time, and the development of the adult in succession, as the first are lost, is indeed wonderful. By this process of removing only one or two teeth at the same time, the child has always a sufficient number left to masticate his food with; but if it were not necessary to sound health, to have the child's food thus prepared, it is not probable that any such arrangement would have been observed.

Perhaps it may be interesting to the lay portion of our readers, to be informed how

nature proceeds in the operation of removing the first set of teeth, and the growth of the second; but, before commencing, we will examine the crude opinions of many on that subject. We find it too generally believed, that the adult teeth come up through the socket of the first, and by this means push the first out of their place, but one moment's reflection on the facts in the case, will show the impossibility and absurdity of such a thing occurring; for the points of the roots of the first teeth are very much smaller than the crowns of the adult front; besides, the roots of the first are round, and the crowns of the second are almost flat at their extremities; then how can the adult teeth pass through the socket of the first set; and the difficulty is increased with the double teeth, for they have two or more roots, and their crowns are four times as large as each root of the first.

But if it were possible for the adult teeth to pass through the sockets of the first set, and thus gradually pushing the first out, another serious obstacle would present itself, viz., the raising of the tooth would make it longer than the others, thus preventing the child from closing its mouth; therefore it could not masticate its food during the whole time of the shedding of its teeth, which occupies several years.

The Creator understanding the wants of the child and the value of the first set of teeth, ordained the following plan for their removal, and the development of the second set. As soon as the adult tooth begins to grow, absorption of the root of the corresponding first tooth commences at its extreme point, and thus continues to be absorbed, or removed in proportion to the advancement, or growth of the adult, so that when the adult tooth has approached near the surface of the gum, the first has lost all of its root, therefore its attachment is only to the gum, and is often easily removed by the child. By this wise operation of nature, the child is permitted to retain the first set of teeth in a useful condition, until the adult is sufficiently ad-

vanced, to commence their appointed tasks. When we consider the plan that is pursued to remove the first set of teeth, it would seem, that it is impossible for any one to doubt the necessity and importance of their preservation, until the appearance of the adult.

Salivation produced by Gold Plate.

"Mrs. R.—Residing in Ranelagh, got a set of upper teeth, with springs attached to the teeth of her lower jaw. For a short time she felt them uneasy, but after a week's use, the unpleasantness went off;—at this period a profuse spitting set in, with constant thirst and nausea. She considered it to be owing to her stomach being out of order, and made use of various stomach medicines for relief. This continued for nearly three months, and when she sent for me, I found her miserably reduced in flesh and strength. She had a black streak along the centre of the tongue, great tenderness and softness, so as to take any impression you made upon it. I inquired the time the spitting commenced, and found it was very shortly after she got the teeth. I requested her to leave them off, except when eating, as I considered by their causing irritation in the salivary glands, this was the source of her complaint. After leaving them off for about ten days, ptyalism nausea and thirst ceased, and she gradually recovered strength and flesh.

The spitting was not accompanied with fœtor, but more like what is caused by the continual use of hydriodate of potash. I examined the gold plate which was perfectly pure, but the springs from their red color, I think contained a small alloy of copper."—*Dublin Hospital Gazette*.

We have seen several cases like the above, after the introduction of artificial teeth into the mouth, mounted on Gold Plate, and each of them varying in degree,—but one of the cases, was one of excessive Salivation, producing exfoliation of a portion of the jaw bone, although such cases are rare, yet when they do oc-

cur, it is important to our patients, that we understand how to cure the salivation, and to prevent its return, without depriving them of their artificial teeth.

In our next number, we will examine the cause of ptyalism, which follows the introduction of artificial teeth on gold plate into the mouth; will also give the mode of treatment and remedy, without the loss of the artificials.

On the Use of India Rubber Regulating Teeth.

BY E. BAKER, D. D. S.

Apparently there is no portion of the human system, which is subject to so much irregularity and sometimes deformity, as the teeth.

There is a wonderful degree of adaptation and fitness of one part of the human frame for another,—but as it regards the teeth, there is certainly considerable deviation from this handy work of nature.

It would undoubtedly be interesting to search, if possible, into the arcana of nature, and trace by what phenomena, or laws of physiology, there is such a variety of classes of irregularity in this respect, or to consider what effect civilization has had in contributing to it. Irregularity of teeth rarely or never occurs in savage, or semi-civilized life,—so it may be said of the brute creation.

There is frequently a disproportion between the aggregate size of the teeth and the capacity of the jaw, for their regular accommodation. No doubt a contraction of the jaw may be produced by the frequent and injudicious practice of prematurely extracting the deciduous teeth of children. It is very evident this should not be done, unless a permanent tooth will be liable to be thrown out of the arch of the jaw, if the shedding tooth remain.

The object should be to keep the arch of the permanent teeth as much extended as possible. Hence, when a permanent tooth is in danger of being thrown out of

the arch, no time should be lost in extracting the tooth which may *partly* be the cause of it; *partly*, because it is evident that when the advancing permanent tooth does not come in contact with the fang of the deciduous tooth, so as to absorb it; there is already an irregularity in the approaching permanent tooth, occasioned by the want of room.

From this it will appear that considerable experience and judgment are necessary, to treat in the best manner, cases of irregularity. A regular supervision on examination of the teeth should be recommended, that they may be treated according to indications, and that too, from an early age. And it is of considerable importance, that the shedding teeth remain *in situ* until they are shed; hence, the proper means for preserving them, should be employed.

The age of twelve years is generally recommended as the proper time to rectify irregularities in the permanent teeth. Perhaps, as a general rule, that is an age as favorable as any,—but as the judicious practitioner will be guided by circumstances, it being desirable to keep up the lateral pressure of the teeth as long as the jaw is expanding; therefore he will anticipate, or delay any operations as it respects time, according to the circumstances or urgency of the case. If there is decay commencing between the permanent teeth, or indications of it, the proper treatment must be performed, the particular age not to be considered.

In extracting teeth to rectify irregularities, circumstances will indicate the course to be pursued. In the first place, a decayed or most unpromising tooth, should be selected for extraction, whether it be one of the bicuspides or molares. Secondly; either of those teeth should be extracted, which will give the required room to form the regular dental arch, and which will generally be better accomplished by extracting one of the molares.

Mr. Koecker advocated and for a very good reason, that the first of the molares

be extracted, in order to allow the wisdom tooth more room, and consequently to come to greater perfection.

Due care should be taken that the superior and inferior dental arches should be preserved in their proper relative positions. As a general rule, when there is irregularity in the upper, there also is in the under teeth, and the regulating of both may be accomplished at the same time. But it sometimes happens, that there is irregularity in the upper teeth and not in the under, and by extracting the upper ones, and not the corresponding number of under ones, the under teeth may be brought too far forward. This will be prevented by extracting the requisite number of under teeth, whether they be irregular or not. It is confidently believed, if all those precautionary measures were made use of, there would be little or no occasion for any artificial or mechanical means for reducing the teeth to their proper relative position. But as mankind, either from ignorance or carelessness never *have*, and most likely never *will*, foresee and guard sufficiently against the evil consequences of neglecting teeth of their children, until the mischief is done, therefore nothing remains but for the Dentist to resort to that treatment, which the circumstances of the case may require.

We now come to the important inquiry—What are the best means for bringing irregular teeth into their desired position, when traction or force is necessary, in order to accomplish it? It is perhaps unnecessary to mention all, or even any of the methods formerly made use of for this purpose. Suffice it to say, they are more or less valuable, according to their fitness to produce the desired effect. In reasoning on the subject, the question will naturally occur,—what application to a tooth will be most likely (there being room) to bring it to the particular and desired position? The answer will be, *that* power which is so applied, as to draw the tooth directly and continually towards the position you wish it to occupy,—recollecting that the power must not be too great. If so, the worst of consequences may follow,

viz., the death if not the destruction of the tooth.

It is well known that a tooth of a young person, if there be room, can be trained comparatively like a vine; but the force, or traction, must be used with great judgment.

The teeth, like all other parts of the human system, are also wonderfully made. They are not mere machines, as some former physiologists have supposed, but delicately and highly organized. The fang of a tooth is invested by a periosteum, the use of which is to distribute the vessels to the external surface of the fang; then comes the process, an eminence of bone, called the alveolar, from alveolus, which signifies a small socket; and the dental nerve contain blood-vessels, which are more particularly distributed to the bone in the crown of the tooth. The bony part of a tooth has a circulation through its substance, and probably lymphatic vessels, although from their extreme minuteness, and the hardness of its structure, it may be difficult to demonstrate them.

The structure, situation, and uses of those parts which surround and support the teeth, both externally and internally, have been thus briefly described, in order to caution the operator, what he has to contend with, and what great care should be exercised, in reducing them to their proper and symmetrical position.

Again; the generality of bones are incomplete until the age of puberty, or between the fifteenth and twentieth years and sometimes later,—hence it follows that a very slight continued pressure, will be sufficient to regulate the teeth of young persons, while the processes are comparatively soft and yielding.

Caoutchouc, elastic gum, or India rubber, is admirably calculated to produce the desired effect in regulating teeth. It is a substance possessing the most singular and we may say, universal qualities; and from its growing and very extensive use in the arts and various purposes of life, it bids fair to be far more useful to civilized life,

than the coco-nut tree to the barbarous, or the rein-deer to the semi-civilized race of mankind.

No substance is yet known, which is so pliable and at the same time so elastic; and it is further a matter of curiosity, as being capable of resisting the action of very powerful menstrua or solvents. Its solidity, flexibility and elasticity, and its quality of resisting the action of aqueous, spiritous, saline, oily, and other common solvents, render it extremely fit for the construction of tubes, catheters, *ligatures* and other instruments, in which these properties are wanted.

This substance has for some years been getting into use, for the purpose of regulating teeth. We are not informed to what extent, but believe it to be more effective and less troublesome, than any of the other methods made use of, and that when its merits are known, it will supersede all other appliances to the teeth, for that purpose.

A narrow strip should be cut from a thin sheet of the India rubber, and after extending it to nearly its utmost capacity, without breaking, it should then be fastened to the tooth to be regulated, and then be passed outside or inside, as the case may require, of the tooth next to the one to be regulated, and which serves as a fulcrum, to draw or tract the irregular tooth to its proper position. Care should be taken that there be proper room, so that the teeth may spread sufficiently, to allow the irregular tooth, or teeth, to be brought into their regular arch. Then the ligature may pass and be attached to one, more or less remote from the irregular one,

After all, much will depend on the skill and judgment of the operator. In the first place, due regard should be had to the size and elastic strength of the ligature,—that it be sufficient for the purpose, and yet not so strong as to effect the tooth in a too sudden or violent manner. Secondly, the ligature must be alternately shifted, when possible, to teeth each side of the irregular ones, but continually attached to

the ones to be regulated, and for reasons which need no explanation. Thirdly, it should be so fastened to the teeth, as to do the least possible injury to the gums;* and finally, it is generally necessary to have also a ligature fastened to the teeth in the opposite jaw, in order to rectify a corresponding irregularity, frequently happening to the antagonistic teeth, or at any rate, to facilitate the operation on those teeth most out of place.

The following case will be related for illustration, regretting that I did not take a cast of the jaw of the young lady, Miss H., before commencing the operation, being very doubtful at the time of producing the desired effect. This person, aged seventeen years, applied to me for advice, about fifteen months since, concerning the right cuspidatus of the upper jaw. At that time, about one third of the crown of it had appeared exactly opposite the lateral incisor, towards the roof of the mouth, and the gum about two lines in breadth between them. The teeth in both jaws had all appeared, except the wisdom teeth, and all in the right place, except the aforesaid tooth;—the first bicuspid, occupying exactly the place the eye tooth ought to have here occupied. This tooth was extracted for the purpose of bringing the cuspidatus into its place. In about two months, it had developed itself sufficiently for an elastic ligature to be fastened to it, which was carried to the outside of the lateral incisor and the front teeth, and tied to some-

times one tooth, and then again to another. Sometimes a ligature was fastened to one of the molares, the remaining bicuspid serving as the fulcrum for the ligature to rest upon. In about three months, the tooth was brought into its proper place without any accident, restoring her teeth to perfect symmetry, and much to the delight of herself and friends, and greatly to my satisfaction, as it regarded the mode and complete success of the operation. The crown of the tooth was drawn, to get it in its proper place, about half an inch.

The difficulty and tediousness of the operation become apparent, when it is considered that the tooth to be brought into place, had a deeper and firmer hold than any other tooth the ligature was fastened to, except it might be one of the molares.

A simple case of irregularity, such as a superior incisor being caught within an under one, may be brought to its proper position in one or two days, by the same means, the case being that of a young person.

Having, by the kindness of M. P. A. Grandhomme, of Paris, been presented with a copy of his *REFLEXIONS sur les moyens employes jus qu'a pour LE REDRESSEMENT DES DENTS suivies de la description D'UN PROFIDI NOUVEAU*; I shall endeavor in a future number, to present a translation of it, believing that the subject matter it contains, on this interesting subject, cannot be but interesting.

* Since this article was prepared for the press, I have been favored with a plan, by Dr. C. C. Allen, of Park Place, for preventing the ligature from pressing on the gum. Dr. A., who has used the India rubber, in several cases, in regulating the teeth, makes use of a simple contrivance to prevent the ligature from pressing upon the root of the tooth and inflaming the gum. He takes a piece of gold plate, the width of the tooth, and bends it in the form of the letter S;—one end is hooked over the end of the tooth, and the ligature passes within the other, which is made as close as possible, that the power of the elastic ligature may be applied as near the end of the tooth as possible. To make it fit more perfectly, he sometimes strikes it up on a metallic cast, to the shape of the tooth.

Practical Remarks upon filling large Cavities in Molar Teeth.

BY C. C. ALLEN, M. D.

It has been a common practice for years, with many Dentists, to fill large cavities in Molar Teeth, where the caries had approached near the pulp of the tooth and where there was considerable tenderness and pain in removing it, with what they call "soft filling" which is nothing more than tin foil. For several years we practiced in this way, for no better reason than

because we had been taught to do so, and observed that eminent Dentists, men whom we considered the best authority in the land, pursued the same course. Many cases of this kind have fallen into our hands during the time which we have been in the practice of Dentistry. On enquiry we have often found that they had been filled and refilled several times by the same Dentists, year after year, as this "soft filling" wore away, by the process of mastication and they had come to us to have the operation repeated.

At length we began to question the superiority of tin over gold, for filling teeth of this description. That it possessed some advantages we could not deny, as for instance, its superior softness, when half packed—for it is well known to all Dentists that pure gold, although quite soft, when first annealed begins to harden, as soon as we commence packing it—which enables the Dentist to fill a difficult cavity in half the time that would be occupied in condensing gold into the same tooth. Its cheapness when compared with the price paid for gold stoppings, in the same class of decayed teeth, reconciles the patient to the loss of the filling in a year or two, and saves the reputation of the Dentist, who did not promise that it would last any longer, while it also encourages the patient to have the filling renewed. Another advantage is, that the Dentists who have not sufficient skill, patience or strength to pack gold solid in these large and difficult cavities, can put in the tin from time to time and thus keep their patients from leaving them and applying to other operators, who would fill them once for all in the most solid and substantial manner.

After much thought and experience in this matter, we came to the conclusion that all these advantages and some others of the same kind which might be mentioned, were not sufficient to justify the Dentist in performing a temporary operation, and repeating it from time to time, each filling less perfect than the last—for the tooth constantly decays and breaks away until it

is too far gone to fill at all,) when by taking more time and pains in the first instance, a substantial gold filling might be put in, which would preserve the tooth for many years, if not during the life of the patient. We accordingly began to fill all these difficult cases which we had been accustomed to plug with tin foil, with nothing but pure gold, and found that it answered the same purpose in large cavities that it did in small ones, and gave much better satisfaction to our patients than the old way of filling from time to time with "soft filling." The only difficulty is in making the gold filling solid enough.

Every Dentist must have often seen in his practice large gold fillings, most generally on the grinding surfaces of the molares, which had a rough uneven surface, in many places sunk below the edges of the cavity and leaving its parieties so much above the gold as to form a superficial hollow in the tooth where the food constantly collects while eating. On examining these gold fillings with a strong, small pointed plugger, it will generally be found easily to penetrate the gold, or between the gold and the side of the tooth, often quite to the bottom of the cavity. Most Dentists have, I presume, found this difficulty with some of their own plugs after they have been in for a few years, and if they have learned from subsequent practice to remedy this defect in all cases, where the cavities are large and deep, they are entitled to the reputation of being *good operators*. We frequently see plugs of this kind put in by Dentists, who have for years enjoyed this reputation, and are sometimes called upon to refill them with the expectation that they will be packed harder and wear longer.

To prevent the plug from settling it is evident that every part of the gold must be packed with a power superior to all the combined muscles of the jaw when used in mastication. The filling in the bottom of the cavity must be made as solid as that upon the surface, or in a short time, by constantly biting upon it, it will yield to

the pressure, and as the bottom of these cavities must often be left larger than the opening, this causes the plug to be loose in the cavity. The gold should be introduced in small pieces and packed as fast as it is put in; for, if too much is used at once all the power of the strongest right arm cannot sufficiently condense it, unless the point of the instrument is so small as to penetrate far enough through the gold to compress it upon the opposite side. For instance, take a cavity in any tooth half a line in diameter, one line in depth and of a cylindric shape, roll up a pellet of gold two lines in length, with one end small enough to enter the cavity, now force the remainder of the gold in with an instrument too large to penetrate into it, and although the surface of the plug may appear hard and receive an excellent polish, yet if a section of the tooth be sawed off at the bottom of the cavity, the gold in this part will be found quite soft and compressible. After such a plug has been used a little while it will not fill the cavity, owing to the gradual condensation of the gold at the bottom. How much greater must the mischief be when the fillings are much larger at the bottom than at the opening. If the gold had been introduced in small quantities, first, at the bottom of the cavity, condensing it as solid as it could be made as fast as it was put in, the plug would be found, on dividing the tooth, as hard at the bottom as on the surface.

The method which we usually adopt in large and deep cavities is, first to pack the gold in small pieces against the sides of the cavity, filling it not more than half full, each successive piece being pressed laterally with a small pointed instrument against the parieties of the cavity and the gold last put in. Thus we introduce one piece of gold after another, in the same manner that a block pavement is put down in our streets, each piece or block is firmly compressed against its fellow until the bottom of the cavity is filled or covered completely over. Then with a small plugger, flat on the end, we compress the gold in the direction towards the bottom of the

cavity; if any spot appears to be soft or yielding under the instrument, we force in a wedge shaped point, which displaces the gold in a lateral direction and makes room for another piece, every part of the gold is to be compressed as hard as possible and the surface left as hard as it can be. This prepares a suitable foundation for the next plug which is to be put upon it in the same manner, filling the cavity considerable above the edges in order that sufficient gold may be left to condense it on the surface. After all the gold has been introduced and packed as solid as it can be made with a small pointed plugger, the surface will generally be found uneven, as some parts of the gold will yield more than others under the pressure; it should then be levelled with a file* that the surface may be smooth and even, and in every part flush with the enamel. It should then be burnished with a highly polished burnisher, after which with a soft pine stick and a fine powder it should be thoroughly rubbed, which will leave a dim surface that will show the slightest imperfection much plainer than when it is highly polished. In this state it should resemble a gold rivet in a piece of ivory, where the ivory and rivet have both been filed off and polished together. The man of taste will be well repaid for all the time and care bestowed upon such a plug by one look at it, years after it has been introduced.

The above is a simple case of a carious tooth when the disease has made considerable progress. We frequently find them complicated with fractures of the parieties of the cavity, here the difficulty is considerably increased and will often tax all the ingenuity and mechanical tact which the most skillful Dentist possesses; but when "the grinders wax few" it is often of the greatest importance to the patient that those remaining should be preserved, and no effort of the Dentist should be spared where there is a possibility of doing so. As a general rule,

* For this purpose Dentists should be supplied with a number of small files, made similar to a round or oval headed burnisher, with teeth cut on one side of the hall.

we may say that, when two opposite sides of the cavity remain entire and of sufficient strength to sustain the pressure necessary to condense the gold between them the tooth may be preserved.*

The following will show our method of treating these cases.

Case 1st.—Mr. C.—— had a second molar tooth on the upper jaw, which had a large cavity in the centre of the grinding surface that had been filled several times with tin foil, renewed once in a year or two. When we saw it, the tin was almost all out the side of the cavity on the external and posterior corner broken away quite to the bottom of the cavity, destroying nearly one quarter of the circumference of the tooth. After removing all the caries, and smoothing the sides of the cavity around the enamel, on the grinding end of the tooth, as also the edges where the enamel had been fractured, down to the bottom of the cavity, and rounding a little the corners which stood up each side of the fissure made by the fracture, we began to introduce the filling in the following manner. The gold was prepared in small rolls, containing from a quarter to a sixteenth of a sheet of No. 6, foil and almost half an inch in length. These rolls were first packed at the bottom of the cavity, against the internal side of the tooth, side by side, one end of each against the front part of the cavity, and the other extending out through the fissure made in the enamel by the fracture; thus roll after roll was introduced, and forced against the front and sides of the cavity until it was more than half full,—the whole was then condensed by pressure against the bottom of the cavity. This filled it about half full. Another layer was then put upon this in the same manner, which filled it more than full; then with a thin wedge shaped instrument, forced into the gold,

with the flat sides of the instrument against the remaining sides of the cavity, openings were made into which small pieces of gold were packed with the same instrument, until no more could be forced in. The gold was then condensed upon the end of the tooth, as solid as it could be made, after which the remaining part which protruded through the breach in the back part of the walls of the cavity, was compressed with a pair of plugging forceps as much as it could be, and the rest filed away. The patient was then allowed to close his teeth, and to bite upon the filling with all his strength, and the gold upon the end of the tooth filed, until the remaining teeth met together, when the whole was burnished and polished.

The gold used in this operation, was between four and five sheets, and the time consumed two hours and a half.

Case 2d.—Mr. G.—had a lower molar tooth, with two tin fillings in it; one on the anterior side, next the bicusped, and one on the posterior, each of them large and extending down quite to the gum; the tooth was also decayed upon the top from the forward plug to the back one, so that when the caries and the tin fillings were removed, the three cavities communicated with each other, forming but one, no part of the enamel being left over either of the cavities that had been filled, but the sides of the tooth, standing entire like two parallel walls. The edges across the front and back of the tooth were filed smooth, and the corners slightly rounded. After the cavity was properly prepared, the gold was first introduced on the front and back parts of the tooth, which had been filled with tin, forcing it towards the gum and sides of the cavity, until it was filled on each side up as high as the bottom of the other cavity, over the pulp of the tooth, and allowing the gold to stand out,—beyond the edges of the cavity. When this was done, rolls of gold similar to those used in the case described above, were laid in and packed against the remaining walls of the cavity,

* By using a very small point the gold may be sufficiently compressed with much less force against the sides remaining; but the time will be considerably increased. Much must be left, in these difficult cases, to the tact and judgment of the operator.

each end extending beyond the tooth, until it was filled, and the gold condensed upon the top of the tooth, when the sides were found to sustain all the pressure which could be put upon them, up to where they were rounded over at the top of the tooth. This was the only molar tooth which the patient had to eat upon in the lower jaw, and of course it was of great importance to preserve it, if only for a few years. Little short of six leaves of No. 6 foil were put into this cavity.—Time of operation three hours.

We have thus given our method of practice in cases of this kind, not for the benefit of those who know a better way, but because we believe it an improvement upon the old plan of filling with tin foil and renewing it annually. If every Dentist could be induced to give the details of his practice to his brethren, through the medium of some of our Dental Journals, each practitioner would soon learn that all the best methods of operating were not confined to himself, that there was still something to learn, before he would arrive at perfection, and that an exchange of ideas was no robbery.

Influence of Miasms and Atmospheric Changes upon Diseased Teeth.

The changes in the seasons from one year to another, or from spring to fall, have an unfavorable influence upon a certain class of diseased teeth,—and it is not confined to persons who are invalids, but it attacks those of robust constitutions, and particularly the young. Observation has taught us, that there is much less *Tooth Ache* during some years than others, and that spring as well as fall, is a “*grumbling time*” with the invalids in the dental family.

The class of teeth which are more susceptible to external, or remote circumstances, is that in which the nerves have been destroyed by disease, or the Dentist;—but the first are more liable than the second to become painful, even if both are carefully and faithfully filled;—the same is

also true of roots, on which artificial teeth have been grafted.

In almost all cases where inflammation occurs in a tooth that has been filled, after the loss of the dental nerve, (except the attack is immediately after the operation,) it is owing to some derangement of the system, and this condition may be produced by some Miasm in the atmosphere, or other causes. The sudden and extreme changes in the weather from hot to cold, are the most common causes of inflammation,—hence this class of teeth may with propriety be called *Barometers*, for in many individuals, they truly indicate the changes with great precision.

The inflammation produced in consequence of the presence of Miasm, is not dependent upon this change in the atmosphere, although it may be increased by it, but it occurs more frequently in the warm and wet summers, or in the spring and fall, when the system is more predisposed to bilious or other fevers.

This Miasm, like many other poisons, enters imperceptibly into the system, and we are not conscious of its presence, until the vital principle begins to feel its influence. Its first development differs in individuals; in one, it may be a loss of appetite, pains in the head and eyes; another feels dull, sleepy and tired, accompanied with much lassitude;—in others, its presence may be first indicated by the sensitiveness of this class of teeth; and on the first notice of tenderness, our attention should be called to the general health of our patient and our remedies* given to antidote the miasm, instead of being confined to local development in the teeth.

* The Dentist, possessing correct knowledge of pathology and therapeutics, will not be in doubt to select the appropriate remedy for each individual case.

We have found that a mild cathartic, followed by a few days dieting, will often effect a cure, and with many individuals, a strict diet alone is all that may be required.

Quinine, administered in *minute* doses every 4 or 6 hours, will be found to be a valuable remedy, where there is a predisposition to a bilious state of the system. The Homœopathic medicines, we have also found very efficient—affording almost immediate relief.

Then, we should in almost every case, afford immediate relief to the sensitive tooth, and perhaps save our patient many days illness and suffering. But to secure success in this mode of treatment, we must have the charge of the patient at an early period of the disease, for if inflammation has so far advanced, that pus is formed at the point of the root, it is more difficult to cure, but not always hopeless. Local remedies, in connection with general, we have found in many cases, to be of much value.

We have observed, that decayed teeth are very liable to be painful during an *East Wind*, and in many cases are cured by a change to the south or west. Why an east wind more than any other should produce inflammation in this class of teeth, we do not fully understand, but the *fact* is no less true; perhaps it may be in consequence of the temperature being colder, and yet the same temperature from the north or west is not followed with the same effect. Our opinion is,—that an east wind contains some *miasm* which poisons the system, and its first development is felt in diseased teeth, they being so many weak points, therefore predisposed first to feel the change, that is silently going on from health to disease.

The sensible effect of changes in the atmosphere, and particularly from the east wind upon diseased bones, fractures, and other injuries, is not new;—individuals who have suffered from severe fractures, or other injury of the bones, are always notified of the approaching change; it is true, that those changes are not always followed by disease, for the system may be in such condition as to resist the poison; but it is also true, that many persons date their illness from that period of time. It would seem from these facts, that bones after such misfortunes, were not restored to their original, perfect and healthy condition, and are consequently peculiarly susceptible to miasmatic and other disturbing influences.

The peculiar effect of the east wind is not confined to the bones, but other parts, and many times the whole system feels its

influence,—it depends upon the susceptibility of the constitution. One case out of many that have fallen under our observations, will suffice to establish the truth, and to call the attention of the scientific to these important facts.

A gentleman, sometimes for 12, 24, or 48 hours preceding the change of the wind from the *north* or *west*, to the *east* or *south*, is attacked with violent nervous suffering,—itching, tickling burning of his feet,—worse at night, so that he cannot sleep, or remain at all quiet in bed, but is compelled to move about, and to bathe his feet in cold water, before he can mitigate his suffering. This peculiar itching, sometimes extends upwards to his chest, as it were in streaks; when it reaches the præcordial region, it causes a shock as if about to fall. The attacks are severe in proportion to the length of time which the wind occupies in its change. He has suffered from them for years. He is now 60;—when a young man he received severe injuries from the falling of a load of wood upon him, which caused at the time an attack of tetanus.

Baltimore College of Dental Surgery.

We have received the annual announcement of the course of Dental Instruction in this College, for 1846, and it gives us great pleasure to inform our readers that it is now in a more flourishing condition than it has ever been before. During seven years this institution has been struggling with all the difficulties to which every new institution is necessarily subjected. Want of patronage; want of confidence; want of friends to sustain it against the influence of those who are ever found arrayed in opposition to every new measure calculated to dispel ignorance and increase the stock of human knowledge and improvement; and a want of a commodious college building.

Through the efforts of the Trustees and Faculty these wants are gradually being surmounted, and the college is fast progressing to a stage of maturity, when its ability to aid in elevating the profession of Dentistry, by furnishing a thorough course of instruction, will be even greater than it is now. During the past year a new and commodious college building

has been erected, possessing all the conveniences necessary to an institution of this kind; such as Lecture Rooms, Museums, Anatomical Theatre, a Public Hall for holding commencements, Desection Rooms, and last though not least a WORK SHOP and OPERATING ROOM, where the hands may practice what the head has learned.

The plan of instruction in this college is admirably adapted to make efficient and scientific Dentists, consisting of lectures and private tuition. There are four professorships viz: Practical Dentistry, Dental Physiology, and Pathology, Special Pathology and Therapeutics and Anatomy and Physiology. The lectures commence the first Monday of November and close the last of February. The college confers the title of D. D. S., or Doctor of Dental Surgery, to such candidates as have attended two full courses of lectures, one of which may have been at any respectable medical college and the other at this institution, passed a critical examination and written and defended a thesis upon some subject connected with Dentistry.

To those who are desirous of entering the practice of Dentistry, we would say that we know of no place where they can be so conveniently and thoroughly prepare themselves to execute with fidelity the duties of a Surgeon Dentist as at the Baltimore College of Dental Surgery. We would also advise all Medical Students who are desirous of practicing Dentistry in connection with Medicine and Surgery to repair to this institution and attend at least one course of lectures on all the branches of Dental Science. The remainder of his time during the four months of the lecture term may be devoted to the practice of Dentistry. Having the foundation laid by his previous studies in medicine for a knowledge of Dentistry, the student who possesses ordinary mechanical ingenuity, would acquire sufficient knowledge of Dentistry to make him a tolerable operator upon the teeth. At least he would acquire a knowledge of the theory, embracing all the scientific principles, so that he could commence practice without incurring the risk of destroying or injuring the teeth of his patients. If he should afterwards settle in any of our country towns, the avails of his operations upon the teeth, in one year, would amply repay him for all the expense of the course of lectures which he had attended.

By this means the practice of Dentistry would

gradually be united to Medicine and Surgery, to which it properly belongs, and the swarms of mere mechanical Dentists who now infest and degrade the profession would again return to their trades, or have their practice wholly confined to that branch of the business in which they are qualified to work, such as manufacturing artificial substitutes for the teeth, and other mechanical fixtures for the Surgeon to adapt to the mouths of his patients. If all our medical colleges could be made to feel the importance of this subject of Dentistry, we believe they would immediately take the proper measures to have it taught in connexion with medicine and surgery; and until they do so we can only say that our feeble efforts shall not be wanted to sustain those in which the principles of our art are fully illustrated and taught. We say then, success to the Baltimore College of Dental Surgeons. A.

Medical Miscellany.

A negro died lately at the poor house, Washington Co., Penn., who was at Braddock's defeat. He was 113 years of age.—The cholera is making sad ravages on the borders of the Red Sea. At Medina, the deaths averaged, when last heard from, 300 a day. Cases had also appeared at Suez.—Several case of hydrophobia have recently occurred at the South. By a naval order, Surgeons of the fleet, in the United States Navy, and Surgeons of more than twelve years' standing, will hereafter rank with Commanders; Surgeons of less than twelve, with Lieutenants; passed Assistant Surgeons next after Lieutenants; and Assistant Surgeons not passed, next after Masters. The deaths in London during the week ending August 8th, amounted to 1135, 237 above the week average for the last five summers. Of these, 136 were from pulmonary consumption.

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The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe, that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the CHILDREN'S DEPARTMENT, which is an important branch of Dental Science.

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No. 3.

ON THE FIRST DENTITION,

BY HARVEY BURDELL, M. D., DENTIST.

The period of teething is the most critical of childhood, and the diseases which arise at the inception or during dentition are the most dangerous, therefore a practical knowledge of the phenomena and treatment of teething should be well understood by dentists. Although dentition itself may not be considered a disease, yet it is evident to every physician who has had experience in the treatment of the diseases of infants, that inflammation, irritation, fever, and other general local affections of a serious nature often attend this process, more especially are these manifestations conspicuous among children who are reared in an artificial manner.

In almost every instance, however, there exists more or less swelling and inflammation in the gums, and at first the tenderness is extreme, and much aversion is manifested in allowing pressure upon them, yet as the teeth advance a change occurs, and there is a disposition to grasp and force into the mouth and against the gums almost every substance the child can get its hands upon; the salivary glands at this period emit an unusual flow of saliva, and the thirst, fever and irritation diminishes, the sleep is less disturbed and more refreshing, and the convulsive movements gradually decrease.

Error in diet, is often the cause of the most unfavorable results in teething, and the mother or nurse should be extremely cautious not to indulge that craving appetite so frequently manifested. The child should be kept at the breast until supplied by nature

with teeth. If the child has to be artificially nourished, the lightest food must be selected, such as tapioca, rice-water, arrow root, sage, &c.; and if the child is quite young, crumbs of bread boiled with water and strained, and mixed with cow's milk, is probably the best diet that can be used. A different kind of *regimen*, however, is necessary after the first teeth appear, and should be commenced with by giving weak animal broth.

The gums in almost every instance become expanded over or near where the teeth might be expected to appear, and considerable local inflammation exists, as well as a certain degree of pain, which is duly manifested by the infant. The cause of this is owing to the pressure of the advancing teeth against the membranous integument, and the adjacent nerves also become crowded and irritated, in which case the gums should be freely divided by an instrument constructed for this purpose. The operation must be performed, by placing the child in a horizontal position upon the nurse's lap, and its hands must be firmly secured; the operator then takes the instrument in one hand, while with the other he maintains the immobility of the jaw; an incision is then to be made deeply and entirely through the inflamed gums until resistance is felt by the hand of the operator on the enveloped teeth. In every instance of difficult dentition, the gums should be carefully examined, and if symptoms of inflammation exist, this operation ought to be performed often, then the most serious and even dangerous maladies are thus averted. Many writers have ob-

jected to the lancing of the gums, but experience proves the utter folly of such a doctrine. It is pretended that the cicatrix which forms over the tooth is an impediment to its advancement, which however is not the case, for every surgeon knows that newly cicatrized parts are more freely acted upon by absorbents, than if no cicatrix had formed, as they are the first to give way during the absorbing process.

A case is related in a French work entitled, "*Traite des Principaux objets de Medicine*," in which a child after having suffered greatly from teething died as it was believed, and was duly laid out in its burial clothes. M. Lemmonnier having some business at the house of the nurse where the child had been during its last sickness, learned the facts above stated, and being curious to ascertain the condition of the alveoli, in an instance where the teeth had not protruded, requested permission to make an autopsical examination. He commenced by making an extensive and deep incision in the gums; and while he was preparing to extend his investigations, he observed the child to open its eyes, and give other signs of life. He immediately applied such remedies as the nature of the case required; stripped off its shroud, applied other and warmer covering, and with care and good nursing the teeth soon appeared, and the child ultimately recovered its health. This case seems almost incredible, yet it was communicated by a French surgeon of eminence.

I have made several post-mortem examinations of children who died during the active stage of dentition, and have found that where great inflammation and tumefaction existed and which was the ultimate cause of death; that on opening or separating the inclosing integuments the teeth were discovered loose and floating in the effused blood. A case is reported in the January number of the *Clinique des Hospitaux des Enfants*, by M. Valleix of Paris, which proves that even in the second dentition dividing or excising the gums is of great importance. A young girl of good constitution had the four molar teeth which complete the second dentition developed simultaneously, giving rise to severe inflamma-

tion of the jaw and the angle of each jaw. M. Valleix excised the gum which covered the teeth, but only when convulsions had already appeared, and without any beneficial effect. He thinks the operation ought to have been performed sooner, and that whenever there are many teeth endeavoring to force their way through the gums, and the general re-action is severe, it ought to be resorted to at once, without waiting for the appearance of serious symptoms. M. Valleix is of the opinion that if dividing the gums had been resorted to, before convulsions had commenced, her life would have been saved. The appearance of convulsions was preceded, during several days, by general agitation, strabismus, swelling of the right eye, dilatation and immovability of the pupils. The convulsions lasted three days and ended in death, notwithstanding the most energetic treatment.

Dr. Ware :—

Will you please to publish the following article from the last number of the *American Journal and Library of Dental Science*, with the comments I have made upon it, if you think them worthy, and oblige,

A SUBSCRIBER.

Dissertation on Preparation of a Cavity in a Tooth preparatory to Plugging. By W. H. DWINELLE. Read before the Society of Dental Surgeons, at its Seventh Annual Meeting, held in the City of New York, August 14th, 1846.

Mr. President, and Gentlemen :

I am aware that I am about to propose a course of practice to you, wholly at variance with the present system, and which, at first may perhaps meet with your unqualified disapprobation. And notwithstanding the gentle admonition which so naturally comes up, of "Let him that thinketh he standeth, take heed," &c., still I feel so fortified, by experience and observation, in the position I am about to take, that I unshrinkingly press forward to its declaration.

In the operation of plugging teeth we have ever deemed it important—indeed, indispensable—that every particle of decayed and discolored matter should be removed throughout the entire cavity of the tooth; nor indeed, have we considered ourselves justified

in regarding our operation as perfect, unless we had followed this course to the letter. That this course of practice is objectionable in the general, I am not so unblushing as to declare; but that there are circumstances wherein it is not only proper, but duty, to leave discolored and even softened parts in the tooth, I am prepared to declare and prove.

It is the experience of us all, that oftentimes, in removing decayed parts from the cavities of teeth, notwithstanding we are safely enabled to displace all decayed and discolored matter from all surrounding parts still we find that the nerve and its immediate vicinity is overcapped and protected with discolored bone, which needs but little license to call decayed. To proceed and remove every particle of decay from the tooth, would be to uncover the nerve, and surround the operation with difficulties which I will not at this time enumerate.

Under circumstances like the foregoing, after having thoroughly cleaned the walls and such parts of the bottom of the cavity of the tooth as I can safely do without interfering with the nerve, I wash out the cavity with a solution of soda, and then proceed to fill the tooth in the usual manner, taking care, however, especially if the parts are much softened immediately over the nerve, to skillfully build an arch over that point, so as to enable it to resist the severe pressure of filling, finishing, &c.

Here, then, we have actual decay sealed up within the centre of the tooth, and that, too, in immediate contact with the nerve! If the first principle of the exploded theory of "internal caries" were true, I have most effectually insured the certain destruction of the tooth, and malpractice is but a poor name to distinguish my operation. But my observation and experience, as well as that of several of my professional friends, proves to the contrary. I have practised in the manner above described for the last four years, and I do not recollect of a single instance of failure. I have a tooth in my head—literally a *golden* one—filled and treated as above by Dr. Wescott, nearly three years ago, as perfect as the day of its completion, and from which I have never experienced the least inconvenience.

In considering teeth treated in the manner described, the question very naturally presents itself, "*Does the decay go on?*" I answer emphatically, *no*. The decay of the teeth is entirely a chemical action, and depends upon *external* agencies alone for its progress, such as air and water, and such other influences as will promote a constant acidulated and decomposing action. The *decay* possesses no quality in itself of advancement, and when the cavity within the

tooth is so completely and skilfully closed as to cut off all communication from without, it is as impossible for the decay to advance, as it would be if the nerve was capped with bone of the purest whiteness. I am inclined to think it matters but little if the bone that protects the nerve of a tooth has lost a portion of its lime, so long as it has sufficient strength to resist the force of a proper plugging. This discolored portion is but a modified character of real bone, a little more of gelatine and less of lime is all the difference.

The fact that the nerve is constantly receding with the age of the patient, to say the least, encourages our operation; and if our work is skilfully performed, and does not interfere with the internal membranes of the tooth, so as to cause inflammation, justifies us in the conclusion that it is permanent and complete.

The uncovering of the nerve of a tooth ever involves difficulties of a greater or less degree, and which oftentimes can only be overcome by the removal of the tooth itself. To expose the nerve is always to subject ourselves to the necessity of removing it: for our experience has been emphatic in its teachings to us, that it is ever unsafe to fill a tooth when the membrane of the nerve is broken. Inflammation, suppuration and destruction are a part of the leading features in the history of its consequences. When exposed, the removal of this delicate fibre is inevitable, and though at times it can be done with comparatively little pain, and generally with safety, yet at others, especially in back teeth, it is extremely painful and tedious.

True it is, that after its removal, by filling the cavity to its extremity with gold, we have performed a comparatively successful operation; but when we reflect we have destroyed a vein, an artery and a nerve, all essential to the vitality and healthful existence of a tooth, we are driven to the conclusion, that our operation is far from being perfect, and we regret that we cannot with more certainty anticipate a more favorable result; we have but chosen a *lesser* evil, the least of two. I propose that we take the least evil, the *least* of three, the least of all!

REMARKS.

I have requested the republication of the above article for two reasons. *First*, to call in question the practice here laid down, and *second*, to see how it agrees with the opinions of the American Society of Dental Surgeons, upon the subject of the use of *Amalgams* for filling teeth.

1st. When removing the decay from a

tooth preparatory to filling it, how is the Dentist to know whether the remaining portion of it extends to the nerve or not unless he sees the bottom of it? Every practising Dentist knows that the dental pulp in the teeth of some persons is much larger than in others of the same age, that it even varies in size in the same class of teeth in the same individual. In preparing one tooth for filling, the Dentist is surprised to find the nerve so near the surface; in another he goes on removing the caries much deeper and is equally surprised to find, that, without uncovering it, he has been able to reach the sound and healthy bone. It is true that as a general rule we may expect to find the nerve at a certain distance from the enamel; but there are so many exceptions to the rule where it lies nearer the surface, or farther from it than usual, that in no individual case can the Dentist be sure that he should have uncovered it if he had gone a little deeper, except in those cases where pain or the great extent of the decay had made it positive and which no sane man would attempt to fill, without first destroying or extirpating the nerve. Unless therefore, the tooth be examined after the operation is finished, he cannot know that the caries had extended to the nerve.

Suppose a tooth treated in the manner prescribed by Dr. Dwinelle does good service for several years, and is then extracted as they often are, to insert a full set of artificial ones, and on examination a mass of dry decay is found extending to the nerve—query. Was it so when the tooth was filled, or has the caries which was left there extended deeper and involved the nerve since the filling was put in? But admitting that Dr. Dwinelle is right, and that it is safe to leave a defective portion of tooth lying directly on the nerve, may it not with greater safety be left in the bottom of a cavity when the nerve is not exposed? If this practice could be generally adapted what a saving of gold would be effected! The Dentists would certainly be under great obligations to Dr. Dwinelle for introducing a course of practice that would add so many dollars to their annual profits! But the Dr. is to good an operator on the teeth to coun-

tenance any such practice "in the *general*," it is only in "*certain cases*" that caries is to be left sealed up in the bottom of a cavity, and of these cases the operator must be the sole judge. He must endeavor like the surgeon, after viewing all the circumstances of the case, to operate in such a manner as to secure the greatest amount of good to his patient.

If he is obliged to deviate from the well known and established practice in a single case, he is not to ask whether ignorant or dishonest men will quote his authority to sustain their own malpractice, it is sufficient for him to know that, under all the circumstances his judgment sustains and approves his practice. Others can only truly say that they operate in his way when similar circumstances attend the operation, which they are about to perform. All must like Dr. Dwinelle, however, for the boldness he has shown in advancing this new doctrine, (new to many at least), for the determination which he shows to practice in this matter as his judgment and experience have taught him is best.

2. If "there are circumstances wherein it is not only proper but duty" to deviate from the generally received rule of practice, laid down by all good writers on ental Surgery, in *preparing* a cavity for filling, *may the Dentist not have the same license in selecting the material which he thinks best under all the circumstances to fill it with?* It is a general rule that pure gold is the best material for stopping the decay in teeth, but for this purpose it must be forced into the cavity so as to exclude all moisture. Unfortunately some teeth are so much decayed, before the Dentist is consulted, that there is not sufficient strength left to sustain this pressure, or the parieties of the cavity are so much broken away, that the gold cannot be made to stay. The teeth are healthy in their sockets, and the patient is exceedingly desirous to retain them, for purposes of mastication and articulation, if only for a short time. Under all these circumstances the Dentist fills them with an amalgam of silver or silver and platina. *Now wherein is he guilty of malpractice more than Dr. Dwinelle?* Both have been driven by the force of

circumstances attending the operation, either to perform it differently from what they would if they had seen the tooth sooner, or not to perform it at all. Both operations are liable to be abused by ignorant and dishonest practitioners. In the one case they dare not remove the decay for fear of exposing the nerve, and hence they leave large quantities in the bottom of the cavity, in the other, they dare not fill with gold for fear of splitting the tooth, and that the filling will soon come away for want of a sufficient cavity to keep it in, and hence they use the amalgam; but this is only their excuse, the true reason is, that they have not the requisite skill to perform the operation as it should be done, or they wish to save their time, labor and gold. Both operations will also sometimes fail even when done in the most skillful manner, yet for one the American Society of Dental Surgeons, expels men who are in other respects in good standing in the profession, and have received the honors of Medical and Dental Colleges, while the other openly avows his practice before the Society *without receiving from it one word of censure.*

Reflections upon the Methods made use of at the present time for the regulating of the Teeth, followed by a description of a new Process.

BY M. P. A. GRANDHOMME,
SURGEON DENTIST.

First, on the means employed to the present day for the (reduction) regulating of teeth.

The teeth, frequently, instead of rising vertically from the alveolar border, incline sometimes in variable angles, forwards, backwards or sideways, so as to present the deformities, known under the names of anterior, posterior, lateral obliquities, or obliquities, complicated or not with a movement of rotation on their axis.

Praiseworthy efforts have been tried, with various success, to remedy these deviations and constitute thus a true dental orthopedy; but the results obtained to this time, have not been realised to the perfection desired, and we have been left to deplore the insufficiency of our art, as it respects the correcting the irregularities of dentition.

In alluding to the practice of the reduction of the irregularities of dentition, I introduce, with some confidence, a new process, founded on the most rational theories, and sanctioned besides, by an experience of many

years, a process at once more powerful and more sure than any means made use of up to the present time.

I propose to offer a few reflections, tending to show the inadequacy and imperfection of the means for this purpose, formerly made use of, which were,

Sudden and instantaneous Reduction, Slow and gradual Reduction.

These are the two heads under which can be classed all operations, which are recommended, and commonly practiced for remedying the (obliquities) irregularities, of the teeth, and of which we are going to make a most brief review, as our only object is, (we do not conceal it,) to prove their imperfections.

1st. Instantaneous Reduction, which is performed by the single process of *luxation*!* which I cite with regret, and which I shall not take the trouble of describing. The dangers to which such a process is liable, renders all criticism on it superfluous.

2d. Gradual reduction. It is to produce this; that all the means generally employed, and also that which I propose to substitute, tend. This last is performed by two different methods, viz: traction and forcing back.

METHOD OF TRACTION, COMPRISES LIGATURES AND BANDS.

On Ligatures.

Apparatus. Metallic wires or threads of raw silk, well waxed, are affixed by loops to the eye-teeth and between the large grinders, either directly or by the medium of hooks provided with rings, while their two heads are brought back and fastened strongly to the prominent teeth.

When the deformity is anterior, the ligature passes within the dental arch and forms the chord of the arc, comprised between its two points of attachment. When it is posterior, it passes outside the convexity of this arc, upon which it presses forcibly. The threads are tightened every three or four days, every time in short, when they cease to be in a state of tension. It is recommended to place the ligatures on the crown of the tooth as far distant from the gum as possible; but notwithstanding this, they are apt to slip on to the necks of the teeth and irritate the gums.

Mode of Action. Ligatures tend to bring nearer together, the two teeth, to which they are affixed. In order that the reduction may be effected, it is necessary that the tooth on which it is sought to establish as a fulcrum, shall have been chosen the most solidly implanted and immovable. The other then yields to the traction which is exercised upon it, by a double power: first by the contraction yielded to the efforts of the operator, next the retraction of the ligature which diminishes in length, as soon as it is impregnated by the fluids of the mouth.

But, how does it (the tooth) yield? It evidently represents a lever of the first class. The fulcrum is at the extremity of the root, at the

* This practice is contrary to the laws of Physiology and common sense.—B.

bottom of the alveolus; the obstacle to be surmounted, is represented by the long wall against which the power will be exercised is accompanied in its length by that same fang, and which constitutes the arm of resistance, whilst that of the power is formed by all that portion of the tooth situated above it. The action of this last will be, as is obvious, in the ratio of its length; this length is measured by the space which separates the resistance of the point of insertion from the force destined to move the lever, that is to say, by the existing interval between the end of the fang and the ligature. We have said that the ligature is liable to slip to the neck of the tooth; from whence it follows that this interval is diminished and a great part of the force is lost by reason of the limited power, which remains. This power being applied to the fang against the alveolus, tends to make it yield, but by reason of the conical form of the fang, and the alveolus being converted into a kind of inclined plane, the tendency of the power, is to draw the tooth out of the alveolus. Moreover, on account of the circular form of the jaw, the action of the ligature, being necessarily oblique, the tooth, in proportion as it is reduced, either forwards or backwards, is more or less displaced laterally, and the action of the ligature being exhausted as soon as the least approximation is produced, it remains suspended until new tractions are applied, so the force is intermittent and unsteady. The effect of the ligature, we consider then, is far from being satisfactory, and as the teeth are living bodies, we consider the prolonged contact of ligatures to them as highly objectionable.

The gum under which the legature slips, suffers from its presence, becomes tumid, painful and inflamed. The alveoli-dental periosteum is also soon attacked by inflammation, and the double influence of the contiguity of the inflamed gums and the strangulation of the alveolar periosteum, must soon produce deleterious effects on the teeth.

We will conclude by remarking, that the ligature is insufficient, in many cases, and may be dangerous in others. It is applied with difficulty, when there are a number of teeth to be reduced at once—that it is slow in action—that it supposes fulcra which are not developed before the age of ten or twelve years, a circumstance of great importance—in short that the practice may bring with it, danger to the very points d'appui themselves.

Of Bands.

Apparatus. The band consists of a narrow metallic plate fixed at its extremities to the molar teeth, by means of hooks and ligatures, and is bent over the dental arch, passing over the dental obliquity; forming thus, a kind of bridge. Holes are pierced through the band opposite to the irregular tooth, and through them a ligature is attached to it, viz: the tooth, and renewed or tightened once in three or four days.

Mode of Action. It is evident that the band is nothing more than a ligature, with an artificial point of support, situated so as to permit a direct traction. Its mode of action, therefore,

is, with the exception of this last difference, absolutely the same.

Some Dentists contend that the band reacts constantly against the ligature, in the manner of a spring, operating as an incessantly active agent, and producing a continual traction. This is manifestly an error.

When the apparatus is placed internally to remedy an anterior obliquity with the ligature attached to the irregular tooth, it presents none of the qualities of a spring. In the inverse position, it, indeed, appears to offer them; but, even in following the very sage advice given by M. Desirabode, of not allowing the band to touch the neighboring teeth, the segment of a circle which it presents in relation to the space formed by the misplaced teeth, has its two extremities still too much approximated for its centre to act as a spring. Moreover, if it did yield, the action produced, acting on the teeth, against which the spring must evidently be supported, would be repeated in the inverse direction to the two extremities and displace the hooks, by bringing them outside.

As to the double band of M. Desirabode, it appears to me accompanied with numerous inconveniences, and ought to be considered as a method to be kept in reserve for cases absolutely exceptional.

The band, then, ought to be classed among the passive agents. Its action is intermittent like that of the ligature and the problem of continued traction has not yet been solved. Besides, it has though in a less degree, all the inconveniences of the simple ligature: inflammation of the gums and alveoli-dental periosteum, suppuration; loosening of the teeth, which become projecting; pains feid breath also follows its use, when it is continued a certain time.

It is however preferable to the ligature in this respect, that its action is more direct, more powerful, and is performed with somewhat less injury to the teeth, to which the apparatus is fixed, but even the point d'appui is too restrained, not to be dangerous to the teeth. The band is liable to the same objection as all kinds of apparatus composed of several metals, or of gold of low standard, and which must be used to give the band the requisite consistency, acting like a Galvanic Battery in the mouth, the deplorable effects of which have not been sufficiently attended to by Dentists, but are too well known by many persons who have suffered from them.

The electro-chemical agents in question, are not solely confined to the senses, they produce the additional result of decompositions, which extend to the dental tissue itself. I merely allude to this fact, for the propose to draw the attention in a special work.

Other means of traction might be mentioned, besides. I made the greater part of the numerous apparatus offered in 1828, by Professor Carabell, to the University of Vienna, intended to illustrate ten different processes, for the reduction of the teeth. These processes, among which is the employment of spiral springs, being all based on the same principles as the band, merit the same censure, and

are rendered useless by the system which I have substituted for them.

METHOD [DU REFOULEMANT.] OR PRESSING BACK, OR THE INCLINED PLANE.

Apparatus. The apparatus invented by M. Catalae, and to which he has given this name, is well known. It consists of a metallic envelope, embracing with the greatest exactness, all the sinuosities of a certain number of teeth, destined to serve as their points of support, and surmounted with a metallic blade or plate, the arrangement of which, is such that it forms an inclined plane in a direction inverse to the irregularity, which it is intended to remedy.

When it is wished to apply this apparatus with force, we fix it with hooks and ligatures. When it is once in position, the Dentist had only to modify from time to time, the inclined plane, according to the effects it may have produced.

Mode of Action. In the movements of the approximation of the jaws, the misplaced teeth come in contact with the inclined plane, which tend to slide on its surface, which is arranged so as to reduce them to their normal position. The acting force here lies in the levator muscles of the lower jaw, the contraction of which have, as is well known, a considerable power. But these contractions are far from being continual. After being used for some time, it often happens that the misplaced teeth become loose and sensitive, and the patient, and particularly if a child, instinctively abstains from putting them in painful contact,—then the mouth becomes habitually gaping, and the apparatus does not act. The operation is thus retarded, and is sometimes prolonged for several years, and evil and inconvenience attend the prolonged contact of foreign bodies with living parts.

The [romolissement] softening of the teeth which the primitive apparatus caused by depriving them of contact with the air, is now, I am aware obviated by the ingenious modifications of Mr. Delelabarre, but caries is developed under other forms, and under other influences.

Thus, extreme slowness in its action, which may have very serious consequences, or one of greater activity. One of too great activity will be accompanied with acute pain and inflammation, suppuration of the gums and sometimes of the alveoli-dental periosteum, loosening and caries of the teeth. Such are the accidents which may be produced by the use of the inclined plane; to which may be added the galvanic effects arising from its composition, and lastly, from the small extent of the field of its applicability.

Attempts have indeed been made to pass the limits which the inventor himself had laid down, but the attempts are either simple speculative theories, or have not brought out, and could not bring out any real practical result.

The description of the evils connected with the use of the apparatus, just remarked upon, may perhaps be thought exaggerated;—but let

us hear the judgment of those who daily put in practice, those means.

M. Desirabode, in a recent publication, says:—"Such are the different means which art employs at the present day to correct the principal mal-positions of the Dental system. Being in general very simple, it is easy to understand and modify their action according as unforeseen cases may be presented, but it is not to be denied, that in passing from theory to practice, difficulties are met with, which only disappear after long experience. These means have not always so complete a result as might be desired, and which some modern authors claim for them. Cases have been seen, not only where success was but momentary, but when the attempt at reduction had only injured those teeth which had supported the action of the power, or of those which had served as points of support.

"Thus in doubtful cases, prudence and professional interest ought to make us cautious in promising. We should observe also that it is imperative to abandon all attempts, as soon as suppuration begins to show itself, for otherwise, we should soon see the teeth pushed out of their sockets by the inflammatory action of the alveolar-dental membrane, the remedy would then be worse than the disease."

We acknowledge that the ligature, the band, the inclined plane, and a host of the modifications of these principles, have many times been attended with complete success;—but we know also, what accidents have arisen from them, and we believe ourselves justified in rejecting them all. We now propose to replace them by a method through which happier results may follow without the risk of the same reverses.—B.

[To be Continued.]

ANCHYLOSIS OF THREE TEETH.

CONTINUED FROM PAGE 9.

(See Engraving.)

The gentleman from whose mouth the teeth were extracted, had lost all of his front, and double teeth as far back as the first molares, and they formed the basis for an artificial set, one of the clasps or springs passed round the molar in the cluster—the artificials were so arranged that the natural teeth of the under jaw came in contact with the inner surface of the artificial teeth, which forced while masticating, the artificial set forward, carrying with them the natural tooth to which they were attached. This unnatural and extraordinary force of pulling the crown forwards, and at the same time pushing the root backward, caused a severe pressure against the socket, thereby creating inflammation, and absorption of the

portion of the alveolar between it and the adjoining roots, until the whole portion was carried away, which brought in close contact the roots of the two teeth—then the pressure was extended to the partition of bone between the second and third, or wisdom tooth, which was also absorbed—in this state of things the three teeth had lost their natural protection between, and around them, and Nature to remedy this loss of their original support, poured out new bone depositing it on all their roots, thus uniting them in one solid mass. Although Nature made a vigorous effort to arrest the hand of the spoiler, yet, the golden arm* of her enemy was too strong for her, and being overcome she was forced to part with three more of her number under the iron grasp of *officer Forceps*.

The condition and final loss of these teeth, teaches the profession as well as the public, an important lesson—for, their condition and loss was owing to the ignorance of the dental operator. If the artificial teeth had been so arranged† that the force, (while masticating) of the under against the artificial upper had been such, as to force them upwards and backwards, then there would not have been any injurious strain on the natural teeth to which the artificial were attached—for in such an arrangement, the pressure when the teeth came in contact would rest wholly on the base of the jaw, and if the Dentist who made the teeth had understood the laws which govern the Natural ones and their dependences he would not have committed the error, nor the gentleman suffered the loss of both natural and artificial.

There are many plain cases of artificial teeth to be inserted, that may be performed by a Dentist, destitute of any other knowledge in the profession; but mechanical—and when such an operation is performed by this class of operators, the patient and dentist believe, that he is competent to perform

the most difficult in the Dental practice, therefore he is recommended to the confidence and patronage of the public.

If no other cases, than those requiring only mechanical qualifications, came into the hands of this class of Dentists, then no harm would be done, but a single case like the one represented in the engraving, is attended with much more evil and suffering to the patient—and loss of confidence in the Dental profession, than all the good he can ever do.

We would recommend to those now in the practice of the Dental art, who have not studied Anatomy, Physiology, Pathology and Therapeutics, to make a bold and vigorous effort to qualify themselves in these important branches of science—and not to spend an idle moment until they are masters of both surgical and medicinal Dentistry—then, will they be prepared to act with promptness, and success will crown their counsels and efforts.

If a gentleman is satisfied with his first lessons, or the knowledge he may obtain while a student, he cannot expect to improve himself or his profession—but will be left far behind, without chart or compass to guide him to the cultivated fields of the ever industrious. The march of the professional gentleman is onward—there is no resting place for him; who loves the improvement, comfort, and happiness of his Race—it is his greatest pleasure, to feel conscious, that he has by constant and unwearied toil, qualified himself to alleviate the sufferings of the truly afflicted.

THE EXAMINATION OF THE SEVERAL MATERIALS NOW IN USE FOR FILING TEETH.

“Most of the substances belonging to our globe are constantly undergoing alterations in sensible qualities, and one variety of matter becomes as it were transmuted with another, such changes, whether *natural* or *artificial*, whether slowly or rapidly performed, are called chemical. The ends of this branch of knowledge are the application of natural substances to new uses, for increasing the comforts and enjoyments of man,

* The spring of the artificial teeth which encircled then the molar tooth.

† The points of the artificial upper, and natural lower teeth must meet in such cases.

and the demonstration of the order, harmony, and intelligent design of the system of the earth.

"The foundations of chemical philosophy, are observation, experiment, and analogy. By observation, facts are distinctly and minutely impressed on the mind. By analogy, similar facts are connected. By experiment, new facts are discovered; and in the progression of knowledge, observation guided by analogy, leads to experiment; and analogy, confirmed by experiment, becomes scientific truth."*

To chemistry are we indebted for many, and we might say, for almost all of the improvements in the Dental art. "By experiment new facts have been discovered" which has been the means of very rapidly advancing the Dental profession, in all of its departments, "by experiment," artificial teeth have been manufactured of great beauty and perfection, and the mode of making and inserting, for single or full sets on gold, has been very much improved. But this state of perfection has not been attained by a single experiment. And to the unwearied desire to perfect the art, by a few master spirits, are the public indebted to the present improved condition of the Dental profession. And yet, we have not a few Dentists who put up the cry of "Quackery" upon the introduction of any thing new in mechanics or improved remedy in disease;—they seem to forget that our profession has ever been—and is progressive; and that we all were once school boys.

Gold, in order to prepare it for filling teeth, has been for a long time, and continues to be the subject of experiment. Many plans have been pursued by the refiners, to purify it from those substances which make it hard and brittle, for in this state it is unfit for the preservation of the teeth. Every Dentist understands the importance of having the gold in a soft and malleable condition, and it is this malleable condition of the gold, which is so difficult to obtain. Those Dentists who use for filling teeth a hard and brittle article of gold foil, because it can be purchased for a few dollars less per ounce,

are very liable to have their fillings fall out and if they do remain in the cavity, they are so imperfect, that the disease is but partially arrested. We have for many years made use of No. 4-5-6 gold foil, and never a thicker article than No. 6 for the largest cavities and oftener than otherwise preferred to No. 5. Our mode of preparing the foil, is to fold it into narrow strips, varying in the number of folds, and width, according to the size of the cavity to be filled. For small cylinder shaped cavities, we cut the strips of foil into square pieces, one of which is sufficiently large to fill each cavity. We have found that foil thus folded, containing 8 folds is more readily forced into the cavity of the tooth, than the same thickness with only four,—hence the thin foil may be made to conform with less force to the uneven surface of the cavity, than the thick, thereby filling it more perfectly, which is of great importance to the saving of the teeth.

Gold, in consequence of its ductility and durability, is peculiarly adapted to the preservation of diseased teeth, yet, experience has proved that there are other metals which have properties better calculated to preserve a certain class of diseased teeth than gold, and when examining those metals, we will give our reasons for such an opinion, which is based upon facts.

Both lead and tin were much used for filling teeth in the commencement of the Dental art, and tin at the present time is preferred by many, for large cavities in double teeth, on account of its being a much softer metal, hence it may be packed into the cavity with considerable less force, than is required for gold, therefore, there is less liability of bursting the crown of the tooth.*

Lead we believe is wholly abandoned for filling the crowns of teeth, but we consider it to be a valuable article for filling their roots,† after which the cavity in the crown

* We would advise a careful perusal of Dr. Allen's article in the second No., "on filling large cavities" whether gold or tin is used for that purpose, for we believe his plan is an excellent one.

† The fact that a leaden ball may be forced

* John W. Webster, M. D.

may be filled with gold. Many in the profession, object to filling the same cavity with two metals, on account of the supposed injurious galvanic action on both the constitution and tooth, although we have filled many teeth in this manner, yet we have never seen a single case, where the electric fluid was produced in a perceptible degree. But we do not wish to be understood, that no such case has ever occurred because we have not seen one, for we can readily understand that when a tooth is filled with two separate metals, and both are exposed to the influence of vitiated saliva, it might make a galvanic battery—but no tooth should be filled with two separate metals leaving both exposed. We will have something more to say on this subject in a future number.

into the flesh, and the wound it has made by its entrance heal with the ball remaining in the soft parts, without any inconvenience or injury—first led us to the use of lead for caps to cover exposed nerves of teeth (where we wished to fill the cavity with gold,) and the filling of roots of teeth which have lost their Dental nerves, in all such cases, it is a powerful antiseptic, and in our hands it has proved to be a valuable remedy.

In case of engrafting artificial teeth upon the fangs, we fill the cavity of the nerve above the pivot, as far as practicable, with lead or tin foil, but we consider lead to be the *best*. When the fangs are thus prepared, there is much less liability of inflammation following the engrafting of the artificial teeth. The filling the cavity of the nerve above the pivot will also prevent the atmosphere from being forced to the extreme point of the fang, at the time of passing the pivot of the artificial teeth into their cavities, and we believe that the compressed atmosphere is the most prolific cause of inflammation after such operations.

It is well known that General Jackson had a leaden ball extracted from his arm, after remaining there many years. In this case the wound had healed, and had it not been for the irritation caused by the motion of the muscles over the ball, there would have been no need of its removal, but it might have remained in comfort until his death.

A friend of ours has at the present time a leaden ball in his body that has been there 22 years, from which he has suffered no inconvenience.

It is not uncommon to find shot in the bodies of wild animals, and fowls, which have been wounded in an attempt to kill them, and the flesh perfectly healthy around the lead.

We have seen several rifle balls taken from the bodies of the deer, which had been there long enough for the wound to heal, and perhaps many years.

Tin, has (independant of its malibility) other properties which gives it the preference over gold for filling diseased teeth, in one condition; what this peculiar property is, we do not fully comprehend, but experiment has taught us the fact, therefore we are compelled to acknowledge it, although it may be contrary to our theory on the subject. The class of diseased teeth which are more favorably effected with a tin than a gold filling, are those which have lost their dental nerves. The Dentist who fills teeth in this condition with gold, and they afterwards become painful, most generally considers any attempt to save them as hopeless—therefore he advises their removal as the only remedy. But our own experience is, that if this class of diseased teeth are faithfully cleansed from all impurities, and the roots, as well as the crowns carefully filled with tin, they will in the majority of cases last many years—but there is one serious objection to the use of tin, for the front and bicuspid teeth on account of its dark appearance; to remedy this, we fill the roots with tin or lead, level with the gums, and the crowns with gold. Teeth filled in this manner, we have found to do well, and we believe equally so as those filled with all tin. Notwithstanding a large proportion of such teeth may be saved for a long time, when faithfully filled, yet, we should ever say to our patients, that there is more or less uncertainty that they may not do well—and if they should become painful after having been filled, the patient must not censure the operator, unless the operation is badly and harshly performed. This class of diseased teeth we call *Doubtful*, and they should never be filled when the patient is unwilling to take the responsibility, or risk. If the teeth are considered of but little value to their owners, the dentist should never jeopard his own reputation, in an effort to save them, for a single unsuccessful operation, when the patient anticipated a favorable one, will do more injury to the Dental Surgeon, than fifty successful cases can benefit him—therefore we would say to the profession, be careful of your promises, and never give your patients cause to complain by encouraging them to expect more, than the nature

and character of your operations will warrant—for *truth* in the profession is indispensable to its elevation. If every Dental practitioner performed his operations in the best possible manner, and always gave his patients the facts in the case, it would greatly increase the amount of his business by giving the public confidence in the practicability of preserving the teeth by the hand of art, whenever attacked by disease.

The reason why so many Dental operations fail to arrest the progress of decay—is the extreme low price for which they are performed, no Dentist should ever undertake to perform a surgical or mechanical operation unless his compensation is sufficient to enable him to do it faithfully—for every bad operation is a curse to the profession, and the public, although we may say in such cases, that the patient has “value received,” for his money; but the patient will not thus tell his friends—he will not take the price into consideration, but will say that his teeth have been filled, and it has failed to preserve them.

(To be Continued.)

MECHANICAL DENTISTRY.

As it is our intention to furnish all the practical information in our power to the readers of our magazine, we copy the following extracts by W. H. Elliot, D.D.S., from the last number of the *American Journal and Library of Dental Science*.

Dr. Elliot has from time to time refreshed the pages of the Journal by his “*Contributions to Operative and Mechanical Dentistry*.” He is evidently a practical man, as much at home in the “work-shop” as in the office; and is one of the few writers who have furnished the results of their practical observations to the readers of the Journal.

It is often of great importance to practicing Dentists, especially those who reside where they cannot conveniently employ a cutler, to be able to make or repair their own instruments. Those who are unacquainted with the art of bending and tempering cast steel so as to form their small pointed instruments, will find after a little practice, all the difficulties vanish, if they conform to the direc-

tions laid down by Dr. Elliot in the following extracts:—

“The fracture of *good cast steel* presents a fine uniform and silvery appearance, works easily and evenly, and tempers at a low heat. Mechanics too often fall into the error of believing that the great secret of making good cutting instruments consists in tempering in some peculiar way; but experience has taught me, that if the steel has been once heated too hot or hammered too cold, any further attempts to produce a fine, firm edge will prove abortive.

“*Cast steel* should never be heated above a bright red, or hammered after it ceases to be red by daylight. A want of attention to these rules, particularly in the construction of small instruments is sure to destroy the strength of the steel and render it useless for such purposes.

“In flattening and curving small points, the anvil should be placed as near the fire as practicable, and during the process of hammering, the steel, instead of being allowed to touch the anvil should be held about an eighth of an inch above it, except at the instant it receives the blow from the hammer; in this way a small point will remain at the required temperature much longer than it would if it were allowed to rest upon the face of the anvil.

“Steel should not be heated, for the purpose of hardening, above a cherry red, and the degree of hardness it acquires in quenching, depends principally upon the temperature of the bath into which it is plunged. I have used several kinds of hardening fluids, such as acidulated water, brine, oil, and quicksilver; but nothing can be relied upon with more certainty than pure cold water. The piece to be hardened should be heated evenly to a dark cherry color by the light of the sun, and then plunged with some rapidity into the bath and allowed to remain until cold, it should then be polished, and the hardness of the temper reduced by heat.

“Very few instruments are required as hard as the steel is found to be on removing it from the bath; besides, in this condition it breaks almost as easily as glass, but acquires, on drawing the temper, a remarkable toughness.

"The several tempers that are obtained by heating steel after it has once been hardened, are indicated correctly by the color the metal takes on, and these tempers are known by the names of the colors which indicate them; so that we say when speaking of a spring, it was drawn to a blue; or, of a lancet, it was drawn to a straw color; because these are the colors that indicate the proper temper for the spring and lancet respectively.

"A piece of polished steel, when exposed to heat, takes on the following colors in succession, viz: 1st, a straw color—2d, yellow—3d, dark yellow—4th, copper color—5th, purple—6th, blue—7th, whitish blue. The first of these tempers is suitable for a gum lancet, the second for broaches and scaling instruments,* the third for rose drills, the fourth for excavators, the sixth for springs, and the seventh for filling instruments; this last temper is used merely to give to the piece a greater degree of firmness.

"In hardening an instrument, not only the cutting part, but as much of the shank as requires strengthening, should be plunged into the bath; and in drawing the temper the point should first be partly polished, so that the colors produced by heat, may readily be distinguished; and while the temper of the shank is being reduced to a whitish blue in the flame of a spirit lamp, the point should be held between the beaks of a pair of large pliers, to prevent it from being drawn too low, and then it may be released from the pliers and the heat allowed to run down until the point assumes the required shade.

"Such points as do not admit of being polished after hardening, previously to being put into the fire should be covered with a paste, composed of a saturated solution of common salt, and some coarse flour. This coating, if carefully put on, prevents the point from oxydizing, or as mechanics term it, prevents the point from scaling. Rose drills, extract-

* For several years we made, tempered and polished all our own instruments, and we must differ from Dr. E. as to the temper of gum lancets and scaling instruments. The former we have found necessary to have of a dark copper color or blue, while we have always left the latter, as hard as fire and water would make them.

ing screws, and all other denticulated instruments, are more or less injured by being heated to a redness without this covering."

FOSSIL HUMAN REMAINS.

A letter from Rio Janeiro, of the 24th of March, states that Dr. Lund, the celebrated Danish naturalist and geologist, to whom we are already indebted for many interesting discoveries in Brazil, has found, in the province of Minas Geraes, a quantity of human bones, including some skeletons complete in the fossil state. There are many skulls; and nearly all have the principal characters of the existing indigenous tribes of Brazil, excepting that in many of them the incisive and molar teeth are exactly alike—a circumstance observed in some of the Egyptian mummies. The writer argues that as hitherto no human bones have been discovered in the fossil state, in any other portion of the globe, those found in Brazil would seem to indicate that America, or its southern part, had been peopled before any of the other quarters of the world.

We would call the attention of our readers to the two cases in Dr Burdell's article on "First Dentition." It is desirable that Dentists should be qualified to take the sole charge of children during the first and second dentition, and not only to manage their teeth, but to treat the diseases consequent on difficult teething. We will very soon, give this subject our special attention.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to Asahel Jone's General Agent, 263 Broadway.

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All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

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HINTS TO DENTISTS.

BY CHARLES C. ALLEN, M. D.

Chapter I.—NEATNESS.

One of the most common faults in the character of the Dentist is, a want of cleanliness in his office. No operator upon the teeth can hope to please and retain his patients, especially the female portion of them, unless strict regard is paid to the neatness of his office, his instruments and his person. The greatest care and watchfulness are constantly required, where many patients are coming and going, to keep his room and instruments so clean as not to offend.

A due regard should be had, in the first place, to the furnishing of his office, that it have all the conveniences for operating upon the teeth in the most comfortable and easy manner. A chair in which the patient can seat himself in a comfortable position, which can be readily adjusted to persons of different statues and sizes, and that will support the head in the easiest and most convenient position for the person who is to be operated upon and the one to operate, for no Dentist can perform an operation with ease to his patient, unless he can place himself in a proper position. A stool of the right height to support the feet, and prevent the patient from constantly sliding forward in the chair. A spittoon high enough to use without bespattering himself or any thing around him, and a stand or table where all necessary instruments will be within reach of his right hand.

Besides the proper instruments to operate with, every Dentist should be supplied with

a glass of water for the use of his patient, and a finger bowl and napkin for himself, and care should be taken to let the patient see that these articles are all clean, when he begins to operate. The office in other respects, should be furnished neatly, and with due regard to the comfort and entertainment of friends, who often accompany the patient and remain with him while the operations are being performed. A library of miscellaneous books, the morning papers or curiosities of any kind which are not offensive. Any ostentatious display of instruments, however beautiful, or anatomical preparations is in exceeding bad taste and will not fail often to offend those whose good opinion is of the greatest importance to the Dentist. In fine, there should be as little in the room to indicate the kind of business pursued there as possible, and as much to divert the attention of the patient and his friends, from the disagreeable nature of dental operations, as is consistent with the convenience of the operator.

Great attention should be paid to the cleansing of instruments after the operation has been finished upon one patient, and before commencing upon another. They should never be put into the second mouth without proper cleansing.

Many a Dentist operates all day upon different persons without thinking of washing or wiping his instruments, who would be disgusted with the thought of using knife or fork at table, after another person, and yet there is no reason why another's tooth pick or brush should be more offensive to my mouth than forceps, files, burdrills or scaling

instruments, which are transferred from one mouth to another, without proper purification. What can be more mortifying than to have a lady examine our instruments, and enquire whether they are clean before allowing them to be put in her mouth? The reputation of every dentist for neatness, should be so well established among his patients, that the most fastidious will commit the care of their mouths to him, without an anxious thought upon this subject. Nor will the Dentist have any trouble of this kind, if he is careful to have his instruments washed and wiped and put up in their appropriate places, when he has finished the operations for each person who comes into his office.

The time required for this will not be lost, for besides the advantage of keeping the instruments clean except when in use, which effectually preserves them from rust, he will, if they are properly arranged, be able to put his hand immediately upon the one he wants to use; whereas, if he allows them to accumulate upon his table, he will often be perplexed in the midst of an operation by not being able to find the one which he needs most. There is scarcely a lady who has employed—as many have done, several different Dentists, but complains of some of them for a want of proper neatness. An ironical one once described to me, a Dentist's spittoon which was *studded* all around with little *gems* of cotton, so uniform in size were they, and so *beautifully* did their bright vermilion color contrast with the white ground upon the basin, that she said she was at a loss to determine whether they were left there through carelessness or intended as merely ornamental! Too much care cannot be bestowed upon the Dentist's spittoon to keep it so pure and clean as not to be offensive.

These things may appear too trifling for insertion in this place; but as they are often neglected by persons who pride themselves upon being ornaments in our profession, and as they indicate the character and breeding of the operator, no one should neglect them. Next to skill in his operations and correct habits in life, nothing attaches the patient to his Dentist more than a strict regard to

neatness. A very common and vulgar trick among Dentists is, to use bees-wax a second time in taking impressions for artificial teeth without properly cleansing it. I could not but blush for my profession when a lady, a stranger to me, once called on me for a set of teeth and begged my pardon for bringing her own wax for me to use in her mouth. She had heard, she said, of Dentists who used the same wax constantly in different persons mouths. Although exceedingly mortified at being suspected of a want of neatness in my business, I could not blame her for adopting a wise precaution. The wax after being once used, should be thrown aside until a sufficient quantity has accumulated, when it should be thoroughly washed, then melted and allowed to cool slowly in hot water, any impurities which do not subside may be scraped from the surface when cool. It is disagreeable enough to any person to have his mouth crammed full of bees-wax, or any other substance, without being disgusted with the thought that it has been previously used for the same purpose.

Many operators are very careless about washing their hands and cleaning their nails, frequently going from the mouth of one person to that of another without performing the proper ablution, a neglect which is unpardonable, and for which many a Dentist has lost good customers. A lady once came to me from an eminent Dentist because she detected him pretending to wash his hands in a dry basin, a piece of deception which secured to me one of my best families. Similar instances are by no means rare, and often bring ridicule and approbrium upon our profession. Too strict attention, therefore, cannot be paid by the Dentist to neatness of person as well as cleanliness in his office, and the different articles used in his practice, and as "The apparel oft bespeaks the man," especially among the female portion of his patients, who often stamp his character, a due regard should also be paid to dress.

While we despise the character of the coxcomb, we equally detest that of the sloven and dislike to see the signs of poverty. It was a remark of Charles Lamb, that a

rent or tear indicated an accident, but a patch showed premeditated poverty. As the business of the Dentist subjects him to no dirty work, he can at a trifling expense, always be dressed in a neat and respectable manner. A thorough knowledge of the art of dress requires great study and a strict attention to the fashions, which necessarily consumes much time, a *Dandy Dentist*, therefore, cannot well be supposed to have much time left to study his profession and perfect himself therein, so on the other hand a careless, slovenly, and poverty stricken exterior indicates a want of that system, which every person must possess who arrives at any degree of eminence whatever his profession or calling. A wise man will, therefore, always dress in such a manner as not to excite remark, or draw particular attention to him on account of his attire.

Neatness of person with proper order and arrangement in the office of the Dentist, are always highly gratifying to the best of his patients, for those who employ him most, who pay the greatest attention to the preservation of their own teeth, are generally from the most elegant, refined, and highly cultivated class of society. It is, therefore, for the interest of every Dentist, constantly to exert himself to please this class of his patients. But however neat and elegant his person and rooms may be—however accomplished in his manners and dignified in his deportment—and however exemplary in his life and character, he must not expect to succeed as a Dentist, at the present day, unless he keeps pace with, and adopts into his practice, all the improvements in *modern dentistry*, taking the greatest pains to perform all his operations in the easiest, the handsomest and the most substantial manner. These ought he to do, but not to leave the others undone.

METHOD (DU REFOULEMANT,) OR PRESSING BACK, OF THE INCLINED PLANE.

[Continued from Page 31.]

Apparatus. The principal piece, is an envelope of Hippopotamus tooth, which is fitted to the jaw, embracing it in the whole extent, adjusted to all the sinuosities; penetrating as far as possible into the interstice so as to embrace a large surface, in order to

afford the greatest possible firmness and solidity to the supporting point of the active means for pressing back. The space which this apparatus forms, is considerably open above the misplaced teeth, which it leaves altogether uncovered and which are thus placed between the two blades as plates which serve as a base to the space itself. The blade or plate, situated on the side opposite to the irregularity, forms a transverse arch, one part advanced, of which the office is, to paralyse the antagonistic effect of the lip or tongue, by keeping these organs at a distance, during the whole time of the operation; the other, is consequently placed in the same direction as the irregularity that is to say, internally, if retroversion is to be effected; externally, if an eversion, producing a sort of (apophysis?) or artificial process of bone, pierced with holes, and hollowed with a transverse groove on the dental face, which rises parallel with and has the same height and width of each tooth.

Other openings are carefully contrived to leave perfect liberty to the teeth, which are in the act of evolution.

The apparatus is furthermore arranged in such a manner that by reason of the points of support differently chosen, according to the particular state of the teeth, it cannot slip on the conical parts of the teeth and so irritate the gums.

The means of propulsion which I use, as caoutchouc (India rubber) previously subjected to a preparation, which increases its force and elasticity. This substance, cut to a suitable shape, furnishes me with straps which I stretch forcibly between my fingers until they become of a very slight thickness. Then I rub and insinuate them between the teeth or tooth which is to be reduced, and the eminence of the hippopotamus, taking care always to place them at the part corresponding to the summit of the crown of the tooth. The space ought to be so narrow that the caoutchouc can only be introduced with some difficulty and thus producing the desired compression. A thread placed in the opening indicated, fills it firmly in this position; from which it would soon escape, if left to itself.

Mode of Action. This is easy to understand. The caoutchouc acts at first as any inert body would, interposed and compressed between the apophysis and the tooth. Its nature is to separate these, acting equally on both. The one being filed, the other naturally yields. It is then that the special and truly active operation of the caoutchouc begins, at the moment when that of an inert body would cease. It contracts upon itself, fills up the space as fast as it is formed, and by virtue of its excessive elasticity, pushes back unintermittingly the tooth which op-

poses it, thus solving the problem of a slow and continual action.

I do not wait until the contractile force of the caoutchouc is exhausted before I replace it with more, successively increasing the volume of it. The change is made every three or four days.

In short as often as I succeed in producing a repulsion amounting to a few millimetres, I put on a new apparatus, or I adopt a plate of hippopotamus to the projecting part of the old apparatus, in order to fill up the interval which is formed between it and the tooth, and to furnish to the caoutchouc a supporting point sufficiently near the tooth. After what has been said, it will be understood that my apparatus may be applied equally well to either jaw. That it is just as well suited to remedy anterior irregularities as posterior ones, and is applicable with equal advantage to the reduction of teeth misplaced, by rotation on their axis. Only in the latter case, the apophysis (which preserves the same direction) instead of being parallel to the tooth, as we have indicated for the other cases, makes with it an angle more or less acute.

The pressure is no longer exercised on the whole of the surface, but only on the part which corresponds to the side of the tooth which is inclined towards the apophysis. If the operation does not progress in a satisfactory manner, we may include the twisted tooth between two apophyses, parallel with each other and the dental arch—then establish a repulsion in the inverse direction from its displaced edges, from front to rear, from rear to front, so that it becomes subjected to the action of two forces applied to the extremities of its transverse diameter, which communicate to it a movement of rotation on its axis, in the opposite direction to that which it had undergone in its displacement.

Let us remark that this apparatus can now fulfil the double indication which it frequently met with, in directing the incisors inward, whilst in order to enlarge the dental circle, the canine and small molares must be forced outwards.

We doubt whether a case *can* occur in practice, in which the apparatus will not answer for all indications. Its superiority might rest on this single fact, of its doing no injury to the teeth and gums, which cannot be said of any metallic apparatus. My apparatus is preferable on account of its numerous supporting points, the constancy and energy of its action; the certainty of directing such action in any desirable manner and, in short, in other advantages, which will appear from the following considerations. Although it is not my design to treat *ex professo*, of dental (orthopedy), or growth of

bones, but only to make known a new apparatus. I wish however, here to lay down principles which may serve to guide us, in the regulating of teeth and by explaining the manner of using my apparatus, hope to enable the reader to judge of those principles.

1st. Reduction should be undertaken as early as possible. The suppleness of the osseous tissue, proportionately greater in the young subject, facilitates the displacement of the teeth and allows the alveolar border to adjust itself more readily to an early operation. Again, early displacement is rendered the more easy by the partial development of the fang of the tooth, which at a later period, extends more deeply into the alveolus and may then by making an elbow near its point giving the tooth the form of an angle in the direction of the irregularity, which will present a further obstacle to the success of the operation.

It is impossible there should be any difference of opinion on the correctness of this principle.

If the apparatus is a proper one it is perfectly unnecessary to wait until the patient is 12 or 13 years of age, or until the first permanent molares are sufficiently grown so as to afford points of support. My apparatus will answer perfectly well without the assistance of those teeth. It can be applied to the deciduary teeth, and thus the reduction of the misplaced teeth, can be effected as soon as they are sufficiently grown.

Secondly. In case of anterior irregularity the first thing to be done, is to secure a place in the alveolar circle, for the teeth which we wish to bring back into line. This is done, first, by strips of caoutchouc, by means of which we press them back successively into the space they have formed behind; second, by the extraction of the first or second small molares.

We apprehend that the filing of the teeth to correct irregularity, is altogether mal-practice.

Thirdly. In the making of the apparatus we must keep in mind the ulterior changes which the jaw has to undergo. We must prudently manage the space which is to be occupied by the teeth, that are yet to come out and give perfect liberty to those which are progressively making their appearance.

Fourthly. We must be attentively prospectively to the two dental arches, in order that, in the new relation which opposite teeth will afterwards contract, the good effects of the operation may be maintained and confirmed.

Fifthly. The apparatus should be made of hippopotamus, to guard against galvanic currents and to present a sufficient volume and a form which shall not be cumbersome or impel mastication.

Sixthly. An essential condition of the successful application of the apparatus is, that it shall incase the parts with such exactness as to render impossible the slightest oscillation, and that on the other hand, it may be easily taken off so as to permit such frequency of cleaning and other hygienic attentions as are requisite for the health of the teeth and gums.

Seventhly. The supporting points which the apparatus takes on the dental arch, should be as extensive and regularly arranged as possible, in order to avoid unequal pressure, which is dangerous.

And last—The force applied to the reduction ought to be slow and continued in its action.

We are too apt not to consider, that the teeth are living organs and surrounded by very susceptible and delicate parts. Violence may not only produce disorders in the latter, but even the death of the former, by destroying the relations of continuity which makes them participate in the vitality of the general system. A slow action alone will avoid the laceration of vessels and nerves and fracture of the alveolar process, which yields without breaking to carefully applied pressure and which accompanies the tooth in its displacement by continuing to embrace it on all sides.

A continual force produces the most powerful effects, even when it is moderate. If there should be any doubt on this point, it will be sufficient to direct the attention to what is constantly occurring, viz., that tumours even of a soft consistency, agitated by pulsations not powerful, but *continued*, wear away and perforate the hardest bones of the human body.

I might add this force, (that none of its power may be lost,) should act at the extremity of the arm of a lever, represented by the tooth, that is to say at the summit of its crown.

It is necessary that this force while it alters the inclination of the teeth, should at the same time, as far as possible, rectify the rotation which they have experienced on their axis.

It is important that the material agent of this force be inoffensive to the dental tissue, that it touch it by a plain surface and never involve it in a circular strangulation. The very considerable action of the tongue and lips should not be neglected. They should be made co-workers in the operation, or their effect be neutralized, (if prejudicial to the operation,) by a particular arrangement of the apparatus. When the reduction is first completed it would be imprudent to abandon the teeth to themselves. They should be supported until the alveolar walls become solidified in the new position which they

have been obliged to assume in accommodating themselves to the displacement of the root.

My apparatus evidently fulfils, better than any other, all those important indications, and without any more comment, I am willing to abide the judgement of the practical Dentist.

History of the invention of my apparatus.

The perfecting my apparatus was gradual, I had been considerably successful, by the use of bands in Vienna, by means of a modification which consisted in fitting, to the very summit of the crown of the misplaced tooth, a small apparatus through the head of which a ligature was attached and afterwards passed through the holes of the band, at the greatest possible distance. This is avoided, circular strangulation of the periosteum, lesion of the gums, and loosening the tooth from its sockets (for the traction, acting obliquely from above downwards, tends on the contrary to push the tooth farther in) and also the loss of force following the shortening of the arm of the lever. On the contrary we increase the action of the ligature, by leaving it of a greater length which increases the power of its retraction.

This was already a step gained, the disuse of metals in the fabrication of the apparatus come next, when repeated experiments had enabled me to prove the troublesome consequences of their presence in the mouth. But their remained to be found another agent than the ligatures of which I had made use, until then, and the inconvenience of which I had to well learned by experience.

In 1833 at Perth, I was consulted by Mr. Hebli a Hungarian merchant, for his son aged fourteen who had a very considerable anterior irregularity of the incisores, canine and first small molares, left side of the lower jaw. It was necessary before applying an apparatus, to prepare for those six teeth, sufficient room, which was almost completely wanting. The two first molares were far advanced in decay. I extracted them without any other regret than that I was deprived of supporting points which I had not yet learned to dispense with. Then I tried to push the tooth successively, commencing with the small molares, into the space left vacant by the extraction of the great molares; at first, by means of small wedges of wood which I introduced between the teeth, and allowed them to remain in order to take advantage of the fluids of the mouth, by dilatation. The introduction of the wood answered the purpose partially but was attended with considerable inconvenience and before long I substituted caoutchouc which perfectly answered my wishes. I have suc-

ceeded a number of times and cannot agree with the author of a recent pamphlet, that those persons who have proclaimed cures by these means, have labored under a complete delusion.

From the above mentioned experiment, to the invention of the apparatus already described, there was but one step. Having succeeded when taking a point of support on the teeth themselves, I naturally thought of trying the reduction, by means of the caoutchouc, by the aid of an artificial point of support.

I have now been twelve years, making use of the caoutchouc, as an agent for the displacement of the teeth.

The English and American Dentists have substituted it, within a few years, instead of the file, in the operation of plugging between the teeth. There is no doubt French Dentists, will adopt it more generally, when they have tested its great superiority.

Practical observations.

Whatever confidence I may have in the theoretical data on which my method is based, I would not so confidently proclaim its superiority, were this not demonstrated by numerous facts, derived from my practice and sanctioned by time.

In Germany, especially, when I have had the most frequent occasions of applying it, always with complete and sometimes uncommonly rapid success. A child of the Princess of Wridre at Munich, in 1837, and the child of Lady O'Donnell at Frankfort in 1840, were treated by means of it, with such success that in the first named child, the reduction of the six upper front teeth, was perfected in less than a month, and, in the second, the reduction of an incisor, very much misplaced, was completed in eight days. Although I have not kept precise notes, I can affirm, that the duration of the treatment in all the other cases, has been less than it would have been by any other process.

Last year (1844) a new success, perhaps the most remarkable of all, due to my apparatus, in the case of the daughter of the Countess of B——, who came to consult me at Baden, Baden, when this case and its cure, made much noise.

This case being better calculated than any other, to show the superior advantage of my apparatus, I may be pardoned for giving a particular account of it.

Mademoiselle de B——, aged 9 years. Her upper jaw presented an anterior irregularity of the two principal incisors. The two lateral incisors were just appearing and appeared to be already inclined forward as well as misplaced by rotation; the canine and small molares were in their proper places. The large molares had not yet

reached the level of the other teeth. The alveolar circle, appeared a little contracted in front. In the lower jaw, the middle incisors were inclined inwards; the lateral ones had already risen to the height of three millimetres; the right one was inclined two millimetres backwards, the left one was in proper line, but had rotated on its axis so as to present its left side forward.

The canines were in their proper place as were the small molares, with the exception of the second one on the left side, which had been unfortunately extracted a year before and which had occasioned a considerable contraction of the dental arch. The great molares were encroaching on the small ones. During the closed state of the mouth the upper incisors appeared two and a half centimetres distant from the lower, and which touched the roof of the mouth, in which they had made a groove. The upper lip was much raised up; the under lip, on the contrary was lodged between the lower and upper incisors, which covered the teeth. The case was complicated; it was necessary: 1st to keep the jaws separated the distance of a centimetre, so as to prevent their overlapping, and also to prevent the lesion to the roof of the mouth and also to facilitate the development of the large molares, in order that they might establish points of contact or meeting, in order to prevent all future cross growths. 2d, to press back the superior incisors. 3d, to push forward the inferior incisors.

Consequently I caused to be made, for each dental arch, an apparatus, similar to that which I have described, taking its supporting points on the milk teeth and bearing the others entirely free for their future growth. Mastication was performed on the hippopotamus covering the milk teeth; the others not coming in contact in the approximation of the jaws. The caoutchouc was renewed, every four days after five dressings the inferior incisors were completely reduced. I then caused a second apparatus to be constructed, the prominencies of which being applied directly to the posterior faces of the teeth (without interposition of the caoutchouc, which was no longer needed, since there was no farther pressure to be made) preventing the reappearance of the deformity, whilst a horizontal arch placed in front to keep the lower lip at a proper distance. This apparatus was taken off every day so as to give the teeth a proper hyagenic attention. My apparatus for forcing back was applied in the same way, to the upper jaw. I extracted a canine* on each side, which allowed the lateral incisors to be reduced,

* Should not the bicuspidæ have been extracted instead.—B.

and placed in a proper position, at the same time giving suitable space for the principal incisors.

After two months the child left Baden, Baden, with the mother, for Turin, the teeth being perfectly reduced and only wearing the protective apparatus on each jaw to prevent a relapse which is always to be feared, until the maxillary bones had become so permanent as to keep the teeth in situ.

I might here cite another case, that of the Marchioness of H—, but it would only be a repetition.

This child, however, was but seven years old. Although I have said it was easier and more rational to reduce teeth as soon as they are completely out, yet it may be done at a later period. I could not assign limits to the power of my apparatus. I have applied it with complete success on Mademoiselle Heine of Strasbourgh, during her stay at Madam Kolb's Institution; who was then eighteen; on Miss Loiseau of the same city aged at the time of the operation, twenty one years; on the daughter of an apothecary at Colmar of the same age. I have not had an opportunity of trying it on subjects of a more advanced age.—B.

Dr. Ware:—

Dear Sir.—I have received through the kindness of a friend, now in Paris, an excellent treatise on the teeth, entitled: "*Traité des dents, manière de diriger la deuxième dentition des Enfants, Conseils aux Pères et Mères de famille sur les soins qu'ils doivent apporter dans la manière d'élever leurs enfants. Hygiène de la bouche et des dents en général. Par C. A. Jamet, Brèveté, Professeur de Prothèse dentaire, etc. etc.*" The French as you are aware have written extensively on the subject of the teeth, yet comparatively few of their productions have been translated into English. Professor Blandin's "*Anatomie du Système Dentaire*," (which I translated about four years since) is an admirable and very comprehensive work on the teeth of man, and also on the teeth of the different classes of animals, but as Doctor Blandin is not a Dentist, and wrote more especially for the instruction of the naturalist, I do not consider that his work would be as acceptable to the public or to the Dental profession as that of Doctor Jamet. The following extracts which I have translated I send to you, and if consid-

ered worthy of a place in the Recorder, you are at liberty to publish them.

DENTAL HYGEIA. OF THE CARE NECESSARY TO BE TAKEN OF THE MOUTH.

Translated from the French of C. A. Jamet.

BY HARVEY BURDELL, M. D., DENTIST.

Hygiene, is that department of medical science, which treats of the preservation of health and the prolongation of life by removing, preventing or resisting disease. The definition of the term dental hygeia is, to preserve the healthfulness of the mouth and of the teeth.

The superiority of man over animals is manifested by the delicacy of his senses, and by the expression, elegance and perfection of his physiognomy. The passions, such as chagrin, joy, pleasure and pain, are imprinted on his features, and shadowed forth in his countenance—changing the picture as each successive thought agitates the mind. As he foresees and anticipates the consummation of his desires, or as he broods over disappointment and disgrace, we can observe by a peculiar and simultaneous change in the countenance, emotions which more particularly characterize the human species.

Philosophers who have treated upon the passions, regard the eyes as mirrors the most expressive of the soul, but I would remark, that if the eyes give that piquant expression, the mouth does not contribute less to augment, charm, and beautify; and, according to my own view, this organ is the most important in the physical conformation.

Nature, so wise in all her operations, has arranged every constituent organ to harmonize with each other, and hence the loss or deficiency of one, affects or mars the symmetry of the whole. What attraction is there in one's address if the smile is not graceful? If an animated, gentle or languishing manner pleases, a sweet and amiable smile contributes to the enchantment. * * * * If the eyes convey that vivid expression, the mouth articulates language, which when uttered in a chaste, clear and eloquent manner,

often transports us with ecstatic emotion.

When the teeth are healthy clean and well arranged, they add materially to the beauty of the face, while their loss not only diminishes the natural cast of the physiognomy, but other disadvantages are realized, more especially in speaking and chewing. Ladies should prize the dental organs, and I would particularly recommend them to take great care, lest the corrupting humors of the mouth, arising from tartar or diseases of the teeth, give to the breath an exhalation disagreeable and repulsive.

If the teeth are decayed or encrusted with a foreign accumulation, the gums become more or less diseased, and the breath is thus contaminated, which is not unfrequently a source of annoyance on a near approach to such persons, and if the proper remedy be not applied the teeth soon break away, the alveolar cavities become diseased, from which purulent matter is excreted, hence beauty is diminished, mastication is performed with the utmost difficulty, indigestion ensues, and life and health decline.

Dr. Jamet, for the purpose of giving a more precise and comprehensive explanation of the term *Dental Hygeia*, divides the chapter into four parts, as follows: 1st of *circumfusa*, which he defines as being the first class of subjects that belong to general Hygiene, as the atmosphere, climate, the earth, the heavens, &c., &c.; 2nd of *applicata*, which he uses to express the objects applied to maintain the healthfulness of the mouth, and also of the teeth; 3rd of *ingesta*, which comprises the different kinds of aliment introduced into the mouth either for the maintenance of life, or to gratify the sense of taste; *Gesla*, includes the varied motions or exercises of the jaws in masticating.

H. B.

SALIVATION PRODUCED BY GOLD PLATE.

(Continued from page 15.)

It may seem strange, and even impossible to many, both in and out of the Dental profession, that gold and the other metals, which are necessary for the completion of full, or partial sets of artificial teeth should

ever produce salivation. But when we take into consideration the susceptibility of many constitutions to the influence of electricity, mercury, morphine, and other medicinal agents, the strangeness is lost—and whenever it does occur, we look upon it as consistent with the well known operation of drugs, poisons, and electricity, upon the human system, according to fixed and undeviating laws.

Quinine, and hydriodate of potassium, will produce ptyalism, when taken for any considerable length of time, and we can see no reason why, the specific influence of several metals in the mouth may not so stimulate the salivary glands, that salivation will be the consequence, in persons whose susceptibility is very great to galvanism. The salivation produced by gold mountings for artificial teeth, is not mercurial, but it is what we call galvanic salivation. This galvanic influence, is undoubtedly produced by the action of a vitiated saliva upon the gold plate and solder which compose the mountings. We have seen only one case, where the shocks produced anything more than a little inconvenience, but that one the patient suffered very much. To remedy this, we solder over the platina which is in the artificial teeth, a thin plate of gold, which completely protects it from the action of the saliva, thus preventing the metals forming a galvanic battery.

According to our own observations, we have never seen a perceptible galvanic action where the platina has been completely covered, and yet we do not wish to be understood, that no such cases can ever occur.

THE EXAMINATION OF THE SEVERAL MATERIALS NOW IN USE FOR FILLING TEETH.

(Continued.)

"Native amalgam"* or the chemical union of quicksilver and silver, which forms

* "Mercury, a metal found in five different states in nature: 1, Native, (*native mercury*) adhering in small globules to the surface of cinnabar ores, or scattered through crevices, or over the surface of different kind of stones,

a hard compound metal, is another material, which has been considerably used by many in the profession for filling teeth, and we consider it worthy the attention of every Dentist. It is true, that it is, unqualifiedly condemned by a few, who have not even made the experiment, to learn its value, but have been satisfied with the bad operations of others, and if perchance a tooth should ever ache, after having been filled with mineral paste, the pain is charged to the filling, and not to the condition, or other causes connected with the tooth.

It is a well established fact, that teeth often ache when filled *with gold* by the most skillful operators in the profession, and it is common for them to do so, if filled by an inferior workman. If it is good logic to condemn mineral paste, as unfit for the preservation of the teeth because they sometimes ache after having been filled with it, then upon the same principle, gold is not a suitable material for that purpose, if the teeth ache when filled with that metal. The preserving quality of mineral paste when judiciously applied to diseased teeth, no man in truth can deny; almost every day we see teeth that have been filled from one to twelve years, and no evidence that there is the least decayed about the filling.

It is said by a few Dentists that mineral paste will oxidize, and that the oxide will salivate. The absurdity of such a thing ever occurring from mineral paste fillings in the mouth, we will show and prove, by the immutable laws of affinity. We feel conscious that we have commenced upon a subject that is considered *settled* by some of the popular Dentists, and the "American Society of Dental Surgeons." Yet their opinions, unless founded upon truth, cannot govern our practice, or deter us from the examination of this or any other subject.

And we desire our readers to understand, that our object in the examination of mineral paste is not to advocate in particular its use, more than any other article for filling teeth, but only to place it on its own merits, and to do away with the many errors, and false theories concerning it. If "by experiment," mineral paste proves itself to be a valuable material for the preservation of diseased teeth, let it be used for that purpose, but if a bad one, then it must be condemned and abandoned. *By a jury of facts let it be tried.*

We have said, that we would prove by the immutability, law of affinity, that mineral paste (when prepared from the right kind of material and in proper manner,) cannot be made to produce *Mercurial Salivation*, when used for Dental purposes.

So strong is the affinity of quicksilver for many of the metals, that it dissolves them, when in a cold state, forming with some of them, when first united, a soft metallic paste, which in a shorter or longer period becomes a hard and solid mass. The solidity of the paste wholly depends upon the kind of metal or metals compounded with the quicksilver—but when united, and hardened, the quicksilver has lost all of its mercurial properties, therefore it must first be separated from the other metals, and changed from its metallic condition before mercurial salivation can follow the administration of it.* But how

* "In order that mercury should act on the human system, it is necessary that it should be oxidized, or combined with an acid. The mercury contained in the unguentum hydragryi, is an oxide. This, however, is the most

2, It is found united to silver, in the ore called amalgam of silver, or *native amalgam of silver*. This ore exhibits thin pieces or grains; it sometimes crystallizes in cubes, parallel to parallelopipeda or pyramids. Its color is of a silver white or grey, its lustre is considerably metallic. 3, Combined with sulphur, it constitutes native cinnabar or sulphuret of mercury. This ore is the most common. It is frequently found in veins, and sometimes crystallized in tetrahedra, or three sided pyramids. Its color is red. It breaks metallic. 4, Mercury oxidized and united either to muriatic or sulphuric acid forms the ore called horn quicksilver, or corneous mercury. These ores are in general, semi-transparent of a grey, or white color, sometimes crystallized, but more frequently in grains. 5, United to oxygen, it constitutes the ore called native oxide of mercury. Mercurial ores particularly abound in Spain, Hungary, China, and South America."

Hooper's Medical Dictionary.

can this separation be effected—it may be by heat, or by dissolving the paste in strong nitric acid, but either process would destroy, not only the tooth containing the paste, but the life of the patient, for it requires a heat of 700 before the quicksilver can be forced from the union with the other metals, and the acid must be of such strength that it would destroy the tooth, and surrounding parts long before the mineral paste was dissolved. How is it possible then, for the mineral paste to produce mercurial salivation.

The fact that quicksilver enters into the composition of mineral paste—is no more evidence that it will salivate, than that, the muriatic acid in common salt, will decompose meat when applied to it—on the contrary it is positive evidence that it cannot—for the law of affinity protects, both the quicksilver, and the muriatic acid, from any injurious consequences when united with the other materials.

The quicksilver is held by this law of affinity, so firmly by the other metal or metals and is so completely incorporated with them, that it is no longer quicksilver but forming with the other metals which are united with it, a new metal, chemically compounded. And thus it is with muriatic acid when united with soda—it parts with its own properties—and a valuable, and harmless compound is the result of this chemical union. We could give many more familiar examples of the changes produced in the properties of minerals, when chemically united, but one is sufficient to establish the principle.

With a view of showing the absurdity of any of the preparations of mercury, used for medicinal and other purposes, ever forming in the mouth from mineral paste fillings in the teeth, we give below the process, and the materials compounded with quicksilver, to make many of the preparations of mercury.

simple and least combined form of all its preparations, and hence, (says Mr. S. Cooper,) it only operates with more mildness on the system, but with more specific effect on the disease."—Hooper.

Metals, the oxides of which are reduced to the metallic state by a red heat.

*Mercury or Quicksilver,** is the only one of the metals that retains a fluid form at the ordinary temperature of the atmosphere.

The principal ore of this metal is the sulphuret, or *native cinnabar*, from which the mercury is separated by distillation with quicklime or iron filings.

Mercury is a brilliant white metal, having much of the colour of silver, whence the terms *hydrargyrum*, *argentum vivum*, and *quicksilver*. It has been known from very remote ages. According to Crichton it boils and becomes vapour at 656° F., 680° according to Petit and Dulong, 670° Brande, and 662° T.

It also rises in vapour in small portions at the common temperature of the atmosphere, particularly in a vacuum.

When the temperature of mercury is considerably increased above its boiling point, the vapour acquires great expansive force, and the power of bursting the strongest vessels. Gay Lussac has calculated that the vapour of mercury is 12.01 more dense than oxygen gas, and that the liquid metal in becoming gaseous, increases in volume 961 times.

When the temperature of mercury is reduced to about -39° or 40° F., it becomes solid and malleable.

By congelation it acquires an increase of sp. gr.; and, therefore, unlike other metals, the congealed portion sinks to the bottom of a fluid mass of mercury. Its sp. gr. at 47° above O. F. being 13.568, it is increased by congelation, to 15.612

Mercury, if quite pure, is not tarnished in the cold by exposure to air and moisture; but if it contain other metals, the amalgam of those metals oxidizes readily, and collects a film upon its surface.

Mercury is sometimes adulterated with the alloy of lead and bismuth, a fraud easily detected by the want of its due fluidity, and by its not being perfectly volatile, but leaving a residuum when boiled in a platinum or iron spoon.†

* Turner, *Phil. Trans.*, 1833, part ii.

† Mercury which is chemically impure will soon acquire adhesive films on its surface, even when cleansed of mechanical impurities, and with a rapidity dependent on the agitation of the metal or extension of surface. These interfere chemically when the metal is to be used in forming combinations, and mechanically in its uses in the trough in electromagnetic experiments, and in the construction of barometers and thermometers.

The purification of mercury from metals by distillation should be performed in an iron retort, a portion of clean iron and copper filings having been introduced with the mercury, which should be condensed and received in clean water. This process, however, is not wholly unobjectionable, as both zinc and arsenic will pass over, and these metals are often present. A very useful method is to put from

The only acids that act on mercury are the sulphuric and nitric, the former requires the aid of heat and sulphurous acid is disengaged (530); the latter acts at all temperatures and binoxide of nitrogen is evolved (455.)

Protoxide of Mercury. This oxide which is a black powder, insoluble in water is best prepared by the process recommended by Donovan.* This consists in mixing calomel briskly in a mortar with pure potassa in excess, so as to effect its decomposition as rapidly as possible: the protoxide is then washed with cold water, and dried spontaneously in a dark place. These precautions are rendered necessary by the tendency of the protoxide to resolve itself into the peroxide and metallic mercury, a change which is easily effected by heat, by the direct solar rays, and even by daylight. It is on this account very difficult to procure protoxide of mercury in a state of absolute purity.

It is a black powder, insoluble in water, uniting with acids, but a weak alkaline base. The alkalis precipitate it from solutions of its salts as the black protoxide.

It is thrown down as a white carbonate by alkaline carbonates, but soon becomes dark from loss of its carbonic acid; as calomel by hydrochloric acid or any soluble chloride, and as black protosulphuret by hydrosulphuric acid; this last is the best test of its presence.

Peroxide of Mercury. This oxide may be formed either by the combined agency of heat and air, or by dissolving mercury in nitric acid, and exposing the nitrate so formed to a temperature just sufficient for expelling the whole of the nitric acid.† It is commonly known by the name of *red precipitate*.‡

When prepared by heat the process may be conducted by introducing into a flat-bottomed matrass, about 4 ounces of mercury, and placing it in a sand-bath, heated to the boiling

point of the metal. In about a month's time nearly the whole is converted into oxide. Air is freely admitted by the tube, while its length prevents the escape of mercurial vapour, which condenses and falls back into the body of the vessel; the remaining portion of running mercury may be driven off by exposing it in a basin to a heat just below redness.

Peroxide of mercury, thus prepared, is commonly in the form of shining crystalline scales of a nearly black colour while hot, but red when cold: when very finely levigated, the peroxide has an orange colour. It is soluble to a small extent in water, forming a solution which has an acrid metallic taste, and is poisonous. When heated to redness, it is converted into metallic mercury and oxygen. Long exposure to light has a similar effect.*

Some of the neutral salts of this oxide, such as the nitrate and sulphate, are converted by water, especially at a boiling temperature, into insoluble yellow subsalts, leaving a strongly acid solution, in which a little of the original salt is dissolved. The oxide is separated from all acids as a red, or when hydratic as a yellow precipitate, by the pure and carbonated fixed alkalies. Ammonia and its carbonate cause a white precipitate, which is a double salt, consisting of one equivalent of the acid, one equivalent of the peroxide, and one equivalent of ammonia. The oxide is readily reduced to the metallic state by metallic copper.

To be Continued.)

THE MATTER OF CONTAGION.

Berres, in a paper published by the Imperial Medical Association of Vienna, and noticed in the British and Foreign Medical Review, says, contagion may consist of either dry or moist matter; the former may be in the shape of scales, scurf or abrasions of the epidermis: and the latter a fluid, contained in vesicles or pustules; and, finally contagion may be propagated by any secretion or excretion from the surface of the body. The essence of dry contagion exists in an aggregation of semi-transparent greyish white globules, about 1-10,000th of a Vienna inch in diameter. These globules swell somewhat in water, but exhibit no further internal structure. In the moist form of contagious matter, we observe a vesicle filled with a clear fluid, which exhibit no traces of organization; but should it become in the slightest degree discolored, then a number of greyish white, round molecules appear in the fluid. These are about 2-10,000th

half an inch to an inch in depth of mercury, into a large earthenware pan, and to pour over it sulphuric acid diluted with twice its weight of water. The substances should be left together for a week or two, being frequently agitated. The metal and acid are then to be separated, the latter preserved for a similar operation in future, and the former washed, dried and cleansed mechanically, by squeezing through shamois, by agitation with damp loaf sugar, passing through a paper funnel, &c.—See Faraday's *Chem. Manip.* sect. xx.

* *Ann. of Phil.* xiv.

† The peroxide prepared from the nitrate almost always contains a trace of nitric acid, which may be detected by heating it in a clean glass tube by means of a spirit lamp; a yellow ring, formed of subnitrate of peroxide of mercury, collects within the tube just above the part which is heated.

‡ *Hydrargyri oxidum rubrum.* of the Pharmacopoeia. In the manufacture of this compound at Apothecaries' Hall (Lond.) 100 lbs. of mercury are boiled with 48 lbs. of nitric acid, and by proper evaporation and application of a dull red heat, 112 lbs. of the *hydrargyri nitrico oxidum* are obtained. B.

* Guibourt.

of an inch in diameter, and contain a small cavity apparently filled with a delicate vapor. But should the contents of the vesicle or pustule become more turbid, then the large spherical pus-globules become visible. It is well known that certain fluids are at one time contagious and at another totally inefficient; and the microscope has hitherto signally failed in discovering the cause of this remarkable variety of effect. From the result of his observations, Mr. Berres contends that all fixed contagions are, at their origin, alike in form, and that they consist of larger or smaller globules, which in the moist variety are surrounded by a clear fluid; moreover, that we have no data to explain the extreme variety in the effects and operations of contagion; and, lastly, that we must allow a specific life and separate existence to *contagion*, which combines itself with the globules above referred to, and employs them as the means of its hidden power. He conceives contagion to be propagated in two different ways, the material and the dynamic or vital. In considering the first-named mode, our attention should be directed to the anatomical constituents of contagion, as before described, and also to the surface of the human body, as its destined recipient. He denies, or at least strongly doubts, the possibility of dry contagious matter acting through the epidermis; and even in the moist form it would require a large quantity for the necessary endosmose: we must, then, allow that it is not the materies of contagion, but its specific life or vitality, which constitutes disease: and infection is then a dynamico-vital process, which takes place between living contagious matter, and the individuals predisposed to receive it. If this be true, it follows that contagion in all respects resembles the process of fecundation; where it is not the semen itself, but the aura seminalis which operates on the germinal vesicle.

RAPID SUCCESSION OF SENSATIONS MEASUREMENT OF THEIR RAPIDITY.

Dr. Haslam, in his work on "Madness," mentions an experiment performed by Her-

schel, in order to determine the number of sensations which might pass through the mind in a given period of time. For this purpose he constructed a clock which produced sounds succeeding each other with such rapidity, that the intervals between each of them were, so far as could be judged, the smallest possible. By careful experiment he ascertained that he could evidently distinguish one hundred and sixty of them to flow in a second of time. Now as each interval between the sounds must, in this case be reckoned as a sensation likewise, because it might be filled up with a sound, thereby making it a continued one, it follows that the mind is capable of perceiving at least three hundred and twenty audible sensations in that period of time.

The succession of ideas may be even more rapid in the healthy subject than this ingenious experiment would indicate; but it is doubtful whether any sense be so well adapted as the ear for the measurement of their rapidity. In insanity, as Dr. Haslam remarks, the succession of ideas is too rapid to be examined; the mind becomes crowded with thoughts, and confusion ensues.

The effect of negative sensations, or of intervals of quiescence between sounds, in producing a positive impression on the mind, and acting as a direct stimulus, is strikingly seen in the fact, that if an individual fall asleep with a continued impression of sound upon the ear, as of a water-wheel, he immediately awakens upon the cessation of the sound; that is, when no impression is produced upon his sense of hearing.

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DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

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No. 5.

THE DISCOVERER OF THE EFFECTS OF SULPHURIC ETHER.

We find by an advertisement in one of the papers, that Drs. C. T. Jackson and W. T. G. Morton have made an important invention which has been patented. In justice to a fellow townsman, I will give its true history. The first announcement publicly made was by myself, more than a year since, in an article written for the purpose of establishing the doctrine that in disease the vital power is diminished, and suggested that in all probability pain was but a peculiar depressed state of the sensor nerves, and in proof stated that stimulants acting upon this system, and having a certain relation to it, would relieve or prevent suffering; and that the Dentists of Hartford were in the habit of administering nitrous oxide gas, which enabled them to extract teeth without the consciousness of the patient. The original discoverer of this was Horace Wells, dentist in this city, and he tried the first experiment upon himself. After the idea suggested itself to him, he debated some time which to use, the gas or ether, but preferred the former as he thought it less liable to injure the system. Being now satisfied of its powers, he went to Boston for the sole purpose of introducing it to the faculty. He presented it to Dr. Warren, who laid it before his class, but the experiment first attempted partially failing, and no one seeming willing to lend him an helping hand, he ceased making any further personal efforts. He especially made known his discovery to Drs. Jackson and Morton,

neither of whom had any idea of it until this moment, and must allow Dr. Wells the whole merit of the thing up to this point. We see by the Journal that Drs. J. and M. call their invention a peculiar compound. I was fully satisfied that sulphuric ether was the article, as it was known to be among the ingredients, and being there, nothing else was wanting to produce the desired effect. The claim, as published, sets the matter at rest; ether, and ether alone, is used, and the world will easily judge how much right Drs. Jackson and Morton have to patent it. Had they been the first to discover the fact that any gas would produce exemption from pain, and had made it known, they would have deserved commendation. They have not done this, nor justice to the true discoverer. Is there any merit in using ether in place of nitrous oxide gas? Certainly not, for the properties of the two things are so alike in this respect, that one is constantly used for the other, and for months I supposed our dentists were using both; and the idea of allowing any man a patent for the use of the one after the effects of the other were known, is preposterous. Dr. Wells's experiments were numerous and satisfactory. One fact discovered, is extremely interesting. It is that however wild and ungovernable a person may be when taking the gas, simply for experiment, he becomes perfectly tranquil when it is inhaled before an operation: that the mind being prepared, seems to keep control over the body, indisposing to any effort.

Unfortunately it is too true, that mystery, as of a nostrum, is frequently required to

induce people, and sometimes the profession, to notice an improvement, and thus far perhaps thanks are due Dr. Morton for compelling attention; yet we must give Dr. Wells the credit he justly deserves of making the discovery, spending time and money in its investigation, and then in nobly presenting it to the world. It is to be hoped every other gas and substance capable of exciting the nervous system may be experimented upon, but we hope no one will think of patenting any if discovered to be similar in its operation.—*Boston Medical and Surgical Journal.*

P. W. ELLSWORTH.

Hartford, Dec. 9, 1846.

From the Medico-Chirurgical Review.

THE SURGICAL, MECHANICAL, AND MEDICAL TREATMENT OF THE TEETH, &c.

BY JAMES ROBINSON.

There is not, we fearlessly assert, in the whole range of medical practice, no, not even including all the absurdities, and still more, the wilful falsehoods, of Homœopathy, of Hydrophathy, of quackery in all its forms, from the last edition of the advertising and puffing book of the regular physician, to the last advertisement of Morrison's pills, or Holloway's ointment, any one branch or element which offers more startling anomalies or more atrocious examples of lying empiricism than the present practice of Dental Surgery. Let any one who takes umbrage at this assertion, or who feels a consciousness, although even himself a Dentist, that he does not deserve to be included in this disgraceful category, and there are many such, look at the advertising columns of the Times or the Chronicle, the Satirist or the Age, or let him order from across the Atlantic the last or any other number of Stockton's Dental Intelligencer (we believe this is the title of the work,) and we ask for no further apology for our unhesitating and contemptuous sentence. The present state of the profession (the trade we had better say) of the Dentist, is one of the foulest blots in the page of medical history. In a branch of medical and surgical practice, which ought to be associated with a good general knowledge of the principles of physiology and of pathology, which can only be successfully and honorably followed by one whose professional education has been that of a physician and surgeon, whose information is only limited by the extent of the present improved teaching of our schools, and the general practice of our hospitals, we find that every Jew mechanic who, from the want of character, or other not less disgraceful cause, fails in his trade—every charlatan who makes up for want of real knowledge of the profession by the most impu-

dent pretension—every unhappy student who is plucked at the College or the Hall, considers himself fully competent to fleece the public in the character of a Dentist, and to practise, without knowledge sufficient to treat safely a whitlow or a cholic, a branch of the profession which includes as numerous and important a class of obscure sympathies and severe and even dangerous consequence, as those which are associated with any organ or system of organs in the human body.

Whence arises this shameful opprobrium? What is there essential to the practice of Dental Surgery that involves an anomaly so disgraceful, and so universal? Is there any one circumstance necessarily associated with this branch of the healing art, to which can in any way be traced this blight that hangs over it, and taints every one belonging to it with a portion of its evil? We believe that it is not difficult to discover its cause, in the universal association of the art of "*Dentistry*" (we rejoice in this vulgar Americanism as so appropriate to the case) with Dental Surgery. It is, we feel convinced, this and this alone, that has reduced Dental Surgery to the level of a mechanical trade, and never can it rise to take its legitimate rank with other branches of the profession of medicine and surgery, until this ill-sorted union is dissolved. It may perhaps be urged that it is impossible to sever the two. That there is not sufficient discrimination in the public mind to enable the mass of society to distinguish between the mere Dentist and the Dental Surgeon—that the association of the two has now become so universal that it would be a mere act of Quixotism in any individual to attempt the practice of one without the other. We have only to answer to this, that it has never yet been fairly tried, and at all events, we feel that, until it is tried, no one has a right to complain of the position to which the professional dentist has reduced himself in the ranks of the profession.

We believe, however, that it may be done. An individual, perhaps, could do but little; and it would probably be ruinous to his practice, or at least temporarily injurious, for him to attempt it alone. But surely, if the educated members of the profession, those who have become recognized and authorized practitioners of surgery, by the acquisition of a diploma from either of the Colleges of Surgeons, or other similar body—the graduates, so to speak, in the profession—if these would but unite to throw off from themselves, as by one act, an opprobrium under which, we doubt not, many of them feel oppressed and degraded, the voice of the intelligent public would sanction the effort, and their confidence would reward an act of courage and honour so creditable to those who effected it, and so unspeakably beneficial to the public themselves.

This is not, however, the place, nor have we room, to enter at large into the details of any feasible plan for effecting so great an object. The hint may be of use—and heartily do we wish that any representation of ours could so rouse the respectable portion of this degraded branch of their profession, to a sense of the de-

gradation which they are themselves perpetuating by every act of tooth-making, as should make their disgrace too heavy for them to bear, and force them to cast it off as an unworthy appendage to the legitimate and honourable practice of their profession.

The above remarks will at once evince to our readers, that the book before us will find but little favour at our hands, considered as a professional work. Its whole plan and scope involves the very union which we have been deprecating; and the very title has the anomalous arrangement of the *mechanical* interposed between the surgical and medical treatment of the teeth; and, as if this were not a sufficient indication of the prominence given to the manufacturing department, we find in addition the words, "including dental mechanics."

Our duty as honest reviewers will not allow of our taking a partial view of any professional work which comes before us in our official capacity. Private respect for persons may sometimes render that duty very painful; but in proportion to the difficulty of being impartial is its necessity increases. We proceed, therefore, to examine what is the situation which this work ought to occupy in the estimation of the profession, with the determination to "nothing extenuate nor set down aught in malice."

The first impression made on our mind on opening the book, is that the author, from some cause, not perhaps very difficult to be understood, is deeply enamoured of the American system of dental practice. As he identifies himself *in limine* with our excellent friends across the Atlantic, as he is an "Honorary Doctor (!) of Dental Surgery of the Baltimore College of Dental Surgeons," (see Title,) as he is, moreover, we believe, the accredited agent of a certain American periodical, before alluded to, we shall perhaps be excused if we consider this close association as some indication of the professional tendencies of our author. Now we are extremely willing to give all due credit to the American *Dentists*, as mere Dentists, as practitioners of what they so felicitously term "Dentistry"—a term which, by the way, Mr. Robinson has adopted and continually employs. We have been assured by those who know much of these matters, that they are extremely adroit at filling hollow teeth with gold (and, *par parenthèse*, it may be added that these are not the only hollows which they contrive to fill with the same precious metal), that they are clever at managing the arrangement of irregularities in the growth and position of teeth, and that the work which they exhibit in the construction of artificial teeth is something quite extraordinary: but what are their claims to be considered as *SURGEONS*—what their knowledge of the real principles of the treatment of disease—what their physiology, their pathology, their diagnosis of associated and sympathetic disorders? We intend, on some future occasion, to enter at length into the discussion of these questions, not only with respect to American "*Dentistry*," but with reference also to the existing state of this branch of the profession generally. At present we

shall confine ourselves to such incidental examples as may come before us in our review of the present work; premising, however, that whatever may be our judgment as to the general state of the profession in America, we are willing to grant that there are some striking exceptions to the otherwise universal censure to which we sincerely believe them to be obnoxious, as mere mechanicians.

The title of the very first Chapter of the book before us, sufficiently exemplifies its real scope. It is entitled "The History of the Dental *Art*;" and the first words of this chapter are, "the origin of medicine, like that of many other *Arts*, is involved," &c. Now here is the fatal mistake which Dentists are very apt to commit. It is all very well for them to look upon their trade as a mere *art*—they have made it so, as a body, by the very mixture of practice which we have been deprecating:—but inasmuch as medicine is to be considered as something more than an art, so ought also dental surgery and dental medicine to be placed on the footing of a science, and its practice to be kept on a professional basis. We will, however, dwell no longer on this matter at present.

In the Chapter in question, we have an amusing digest of the ancient history of the treatment of the teeth, from the earliest ages; and the author has the following pertinent remark on the reasons which would naturally lead the Egyptians to take the lead in the supply of lost teeth by artificial means. "The significance of these organs,—to say nothing of their ornamental or useful functions,—was acknowledged in a remarkable manner by the ancient Egyptians, so that one of their most severe and infamous punishments consisted in the abstraction of a front tooth." "The loss of a front tooth, whether by disease or not, would naturally, under the circumstance of Egyptian law, give rise to unpleasant suspicion, and every exertion might be expected to be made to supply the deficiency. Accordingly, Belzoni and others have discovered artificial teeth in the Sarcophagi of the ancient Egyptians. These, it is true, are rudely made, and, from being of wood, are ill adapted for performing mastication, &c." (p. 8.)

This first Chapter closes with comparison between the merits of English and American Dentists, a comparison no less invidious in its depreciation of the former than it is undeserved, if we exclude the numerous quacks and advertisers of our country from the list. Let us first see what he says of the English authors on this subject.

"About this period, the famous John Hunter turned his attention to the subject, and presented the world with his 'Natural History of the Teeth,' a production which, while it enlarged the sphere of dental knowledge, piqued the pride and roused the ambition of the English practitioners of the art.

"The inaugural Dissertation on the Structure of the Teeth of man and animals, published in 1798 by Robert Blake, gives evidence of the rapid strides that had been made in the anatomy and physiology of the teeth. This

work was soon followed by others, and at the commencement of the nineteenth century, the surgeon-dentists of this country were fully entitled to rank with the practitioners of the other branches of surgery.

"The most important of the works of our own time are those of Fox, 1803, Bell, 1829, Nasmyth, 1839, Owen, 1840; also those of Snell, Waite, Robertson, Jobson, and Koecker: besides which, we might enumerate several smaller works by Saunders, Clendon, White, and others, and many valuable detached papers in transactions and periodical publications."—P. 13.

Now for the list of American authors whom Mr. Robinson arrays so triumphantly as evincing so great a superiority over those of his own country.

"Within the last century, dentistry has advanced far more rapidly in the United States than in any other country. Thus we have Gardette in 1821, Parmly L. S. Parmly, and Flagg in 1822, Trenor, 1828, Fitch, 1829, Brown, 1833, Spooner, 1836, Goddard, 1843; and in 1845, Dr. Harris, one of the editors of the *American Journal and Library of Dental Science*, published a most able and comprehensive work, entitled the *Principles and Practice of Dental Surgery*. And many other productions on the subject have appeared in America, and especially in the periodical just alluded to."—P. 14.

Now really we could hardly help smiling at this extraordinary comparison; for we cannot but think that the list of English authors on "Dentistry," as here given by Mr. Robinson, from Hunter downwards, may possibly bear a comparison with his vaunted list of American writers, aye, even if we give them Mr. Robinson into the bargain.

The following farrago may well be quoted as the summing up of this comparative view of the merits of the practitioners of the two countries.

"Before concluding, we may be allowed a word respecting the present state of dental art and science. The conditions of success appear to be not different in this from what they are in other branches of knowledge and practice. They are all summed up in one phrase, UNITED LABOURS. Whatever of discrepancy there is in the works of our chief authorities, is greatly owing to the isolation in which they studied, and to the want of a general means of collating their ideas. Again, whatever of progress we find in that country which takes the lead in the dental art, appears to be due to an absence of prejudice and jealousy which allows free communication of ideas, and association of common interests, among the members of the profession. For the association of dentists in America has not only given its members generally a *status* in society unknown to dentists elsewhere,—has not only repressed those characters who intrude themselves upon the public here, and given merit its station and honesty its preëminence,—but has also contributed largely to the advanced state in which dental

science stands in the United States. It is painful to think that we do not yet possess the same advantages in England. The names of Harris, Brown, Parmly, Maynard, Greenwood, Goddard and Haydon, shine high over our heads in these respects, and present us with bright examples of brotherly good feeling, scientific excellence, and practical success."—P. 16.

We fear that few of our readers have had the advantage of perusing the authorized medium of communicating information on "Dentism," (we use another of Mr. Robinson's Americanisms), and we must therefore ask them to take our word when we assure them that, as far as we can judge from that and other sources, we are patriotic enough to believe that we could select a body of practitioners of Dental Surgery in this metropolis, every one a member of the Royal College of Surgeons of England, who need not fear a comparison with those of any other country, no, not even of America, in knowledge of their profession, in the education, manners and feelings of gentlemen, in their "status in society," and in every other quality, which ought to distinguish the professional man or the gentleman.

Let us assure Mr. Robinson that we are sincerely pained at being forced upon this comparison; the attack is his own, and he must not feel hurt at our defence.

We proceed with our analysis. In the course of some very useful and judicious remarks on the diseases consequent on the irritation produced by the first dentition—and most of which, by the way, we seem to recollect to have met with in substance before—we have a very proper and rational denunciation of the common administration of opiates by nurses and mothers, concluding with this undoubted and important truth. "A teaspoonful of castor-oil will commonly be a far more efficient *opiate* than all the Godfrey's Cordial and soothing Syrups that were ever invented."

In the observations on the "progress of the second or permanent teeth," we find nothing new worth transcribing: and the same may be said of the chapter on the second or permanent teeth, and that on the "Comparative View of the Teeth of Animals;" but the writer's views on the mechanical treatment of irregularly require some notice.* The general impression left by the perusal of this portion of the work is, that the author's prevailing tendency to the mere mechanical art of dental practice, has led him to depend more than is proper upon such means for remedying these cases. He appears to us too consider far too little the mischief which so often results from the application of mechanical force to growing teeth, and even to those which are already perfectly formed. At the same time we think that there are many practical suggestions which are likely,

* The following juxtaposition of names strikes us as being funny. "Some curious anomalies of the teeth are related by *Pliny* and *Dr. Pritchard*."—Note, p. 36.

with proper caution, to be useful to the practitioner. He very properly condemns the common practice of extracting the temporary teeth "before the second are sufficiently developed to take their place." On this subject he relates a case, which does not appear essentially to differ from scores of almost daily occurrence; the only peculiarity as far as we can see, being that the patient was "the son of a nobleman." (By the bye, what on earth does Mr. Robinson mean by "the pale of civilized dentism?")

On the subject of remedying irregularity arising from crowding of the teeth in the jaw from the arch being too narrow for them, a somewhat complicate apparatus is recommended (pp. 64, 65), which appears to us to deserve a trial. There is, however, an obvious objection to Mr. Robinson's plan, and that is its being applied at as early an age as from the 9th to the 12th year. Not only is there a great danger of loosening the teeth from their being moved at so early a period, but we should fear that the proper formation of the dentine would be interfered with, by the action of any considerable pressure on the growing teeth. Did Mr. Robinson ever examine the pulp cavity of a permanent tooth at this age?

We next pass on to the immobility of the jaw, arising from contraction of the elevators of the lower jaw (we suppose this is what our author means); and we find this symptom, whether arising "from the cutting of the wisdom teeth, from the use of mercury, from hydrophobia, or some other cause (!)" all considered as "tetanus or lock-jaw!" The instrument recommended for forcing open the mouth in such cases is nothing more than the *speculum oris*, which is employed at every hospital and sold by every instrument-maker.

On the subject of the "colour of the teeth as a test of consumption, &c.," our author seems to consider that, if people's teeth were examined, they would present such appearances, as would often lead to a plan of treatment by which phthisis would be prevented or cured. He appears to take great credit for his discovery of these new opinions; but we do not hesitate to say, that the effect of a scrofulous constitution on the appearance of the teeth has been known to every writer of consequence on the teeth, from Hunter to the present time; and many of the details which Mr. Robinson adduces, have, we are convinced, no existence but in his own imagination.—See particularly the coloured engraving at p. 78.

The subject of "the teeth considered as a test of age," is one of the great importance, or rather we might say, it would be so, were such indications to be depended on to any extent. We have ourselves seen so many examples of abnormal periods of the second dentition, that we entirely agree with Mr. Robinson, in considering such a test as absolutely fallacious. We have cases within our recollection, in which the teeth were nearly in the same state of progress at 5 and at 8, at 9 and at 13.

We come however to the *voxata qu-stio*, the cause of caries. Here our author acknowledges himself at fault; and, after giving what he calls the opinions of about a dozen of writers

on the subject, gives his verdict, without stating for what reason, for that originated by Parmly, and "maintained by Dr. Harris in his last work," (p. 88.) Now we beg to say, that the statements of Hunter, of Fox, of Bell, and of Saunders, are identical; and that the others agree only in attributing this disease to external causes alone. In other words, that the disease is attributed by the first-named writers to changes in living structure, in the others, to changes effected in the inorganic substance by which that structure is covered and protected. Mr. Robinson says,—“And now, having cited the opinions of others, I shall perhaps be expected to register my own. The field of speculation, however, is well enough occupied without it; and moreover, any view would be practically worthless, unless it enabled us to foresee the disorganization of the teeth, which we cannot do at present. I will nevertheless commit myself so far as to observe, that the nearest approach to truth appears to me to be the chemical theory of Parmly, put forth in the year 1820, and maintained by Dr. C. A. Harris in his last work.” We are therefore at once enabled to judge what are the opinions of the author, of his Magnus Apollo Dr. Harris, and of the originator of the theory Dr. Parmly; and the passage to which we are referred as containing the enumeration of the decisive theory is the following precious sentence:—

“*Parmly* (1820): “The premature decay of the teeth, is the consequence of uncleanness, which acts upon them in the same manner as on other parts, by sapping and corroding the vital energy, and thereby causing them to moulder away.”—P. 87.

Now we have no hesitation in saying that, if any one physiologist of the two hemispheres were asked the real simple meaning of this passage, he would acknowledge, and with a smile too, that he knows nothing at all about it. And this is the physiology on which American “Dentistry” is founded! Well may our author exclaim, “*ne sutor ultra crepidam*.”

The class of persons for whom this work is written may be easily ascertained by the GLOSSARY which the author has thought it necessary to append to it. The work purports to treat on the *surgical and medical* treatment of the teeth. What sort of surgeons must they be who require an explanatory *glossary* of such terms as ABSORBED, ALKALINE, ELVEOLAR PROCESSES, CHRONIC, DIAGNOSIS, FEBRILE, MAXILLARY BONES (!) MUSCLE, &c., &c.?

But we feel that we are bestowing more space on this work than it deserves. It were easy to comment with painful severity on almost every page. The whole affair is obviously an attempt at making a book for an especial purpose. We had hoped that this was not the case when we commenced this review, but it is so painfully forced upon us that it is impossible any longer to conceal or to apologise for it.

The only portions of the book which are really free from the general censure, appear to be those which relate to purely mechanical matters, and with these, *we* have nothing to do. The Dentist may, and we doubt not will, find

some useful hints on these subjects, but the result of our examination of the work, as far as it has respect to true dental surgery, is, that it is calculated only to perpetuate the unhallowed union which we have been deprecating, and to endeavor (it will, however, be fruitless) to exalt a mechanical art into the rank of a profession. Once more we call upon the educated *Surgeon* Dentists of this country at least to repudiate the mere mechanism of "Dentistry," to render themselves independent of the art of tooth-making, and to show that there is a distinction between the scientific surgeon and the mere mechanic who, by administering to the vanity of a faded coquette, or even by subserving the better object of assisting impaired mastication, and thus becoming the humble adjutant to the surgeon and physician, ought to be, and *must* be placed in a lower and a distinct class of professional society.

INHALATION OF ETHEREAL VAPOR FOR THE PREVENTION OF PAIN IN SURGICAL OPERATIONS.

BY JOHN C. WARREN, M. D.

Application has been made to me by R. H. Eddy, Esq., in a letter dated Nov. 30th, in behalf Dr. W. T. G. Morton, to furnish an account of the operations witnessed and performed by me, wherein his new discovery for preventing pain was employed. Dr. M. has also proposed to me to give him the names of such hospitals as I know of in this country, in order that he may present them with the use of his discovery. These applications, and the hope of being useful to my professional brethren, especially those concerned in the hospitals which may have the benefit of Dr. M.'s proposal, have induced me to draw up the following statement, and to request that it may be made public through your Journal.

The discovery of a mode of preventing pain in surgical operations has been an object of strong desire among surgeons from an early period. In my surgical lectures I have almost annually alluded to it, and stated the means which I have usually adopted for the attainment of this object. I have also freely declared, that notwithstanding the use of very large doses of narcotic substances, this desideratum had never been satisfactorily obtained. The successful use of any article of the materia medica for this purpose, would therefore be hailed by me as an important alleviation to human suffering.

I have in consequence readily admitted the trial of plans calculated to accomplish this object, whenever they were free from danger.

About five weeks since, Dr. Morton, dentist of this city, informed me that he had invented an apparatus for the inhalation of a vapor, the effect of which was to produce a state of total insensibility to pain, and that he had employed it successfully in a sufficient number of cases in his practice to justify him in a belief of its efficacy. He wished for an opportunity to test its power in surgical operations, and I agreed to give him such an opportunity as soon as practicable.

Being at that time in attendance as Surgeon of the Massachusetts General Hospital, a patient presented himself in that valuable institution a few days after my conversation with Dr. Morton, who required an operation for a tumour of the neck, and agreeably to my promise I requested the attendance of Dr. M.

On October 17th, the patient being prepared for the operation, the apparatus was applied to his mouth by Dr. Morton for about three minutes, at the end of which time he sank into a state of insensibility. I immediately made an incision about three inches long through the skin of the neck, and began a dissection among important nerves and blood-vessels without any expression of pain on the part of the patient. Soon after he began to speak incoherently, and appeared to be in an agitated state during the remainder of the operation. Being asked immediately afterwards whether he had suffered much, he said that he had felt as if his neck had been scratched; but subsequently, when inquired of by me, his statement was, that he did not experience pain at the time, although aware that the operation was proceeding.

The effect of the gaseous inhalation in neutralizing the sentient faculty was made perfectly distinct to my mind by this experiment, although the patient during a part of its prosecution exhibited appearances indicative of suffering. Dr. Morton had apprised me, that the influence of his application would last but a few minutes after its

intermission; and as the operation was necessarily protracted, I was not disappointed that its success was only partial.

On the following day, October 18th, an operation was done by Dr. Hayward, on a tumour of the arm, in a female patient at the Hospital. The respiration of the gas was in this case continued during the whole of the operation. There was no exhibition of pain, except some occasional groans during its last stage, which she subsequently stated to have arisen from a disagreeable dream. Noticing the pulse in this patient before and after the operation, I found it to have risen from 80 to 120.

Two or three days after these occurrences, on meeting with Dr. Charles T. Jackson, distinguished for his philosophical spirit of inquiry, as well as for his geological and chemical science, this gentleman informed me that he first suggested to Dr. Morton the inspiration of ether, as a means of preventing the pain of operations on the teeth. He did not claim the invention of the apparatus, nor its practical application; for these we are indebted to Dr. Morton.

The success of this process in the prevention of pain for a certain period being quite established, I at once conceived it to be my duty to introduce the apparatus into the practice of the Hospital, but was immediately arrested by learning that the proprietor intended to obtain an exclusive patent for its use. It now became a question, whether, in accordance with that elevated principle long since introduced into the medical profession, which forbids its members to conceal any useful discovery, we could continue to encourage an application we were not allowed to use ourselves, and of the components of which we were ignorant. On discussing this matter with Dr. Hayward, my colleague in the Hospital, we came to the conclusion, that we were not justified in encouraging the further use of this new invention, until we were better satisfied on these points. Dr. Hayward thereupon had a conversation with Dr. Morton, in consequence of which Dr. M. addressed to me a letter. In this he declared his willingness to make known to us the article employed, and to supply assistance to administer the inhalation whenever

called upon. These stipulations he has complied with.

This being done, we thought ourselves justified in inviting Dr. Morton to continue his experiments at the Hospital, and elsewhere; and he directly after, Nov. 7th, attended at a painful and protracted operation performed by me, of the excision of a portion of the lower jaw in which the patient's sufferings were greatly mitigated. On the same day an amputation of the thigh of a young woman was performed at the Hospital by Dr. Hayward. In this case the respiration of the ethereal vapor appeared to be entirely successful in preventing the pain of the operation; the patient stating, afterwards, that she did not know that anything had been done to her.

On Nov. 12th, an operation for the removal of a tumor from the arm of a young woman was performed by Dr. J. Mason Warren. The vapor was administered for three minutes, when the patient became unconscious; the operator then proceeded, the inspiration being continued. Standing myself on one side of the patient, while the operator was on the other, so entirely tranquil was she, that I was not aware the operation had begun, until it was nearly completed.

On Nov. 21st an operation was performed by Dr. J. Mason Warren on a gentleman for the removal of a tumour, which covered nearly the half of the front of the right thigh. The patient lying upon a bed, the vapor was administered by Dr. Morton in the presence of Drs. Charles T. Jackson, Reynolds, J. V. C. Smith, Flagg, Gould, Shurtleff, Lawrence, Parsons, Briggs, and others. After he had breathed the vapor for three minutes his head fell, and he ceased to respire it, but presently awaking, the inhalation was renewed till he again appeared insensible. The operation was then commenced. At the first stroke of his knife he clapped his hand on the wound, but I immediately seized and held it during the remainder of the operation, though not without some difficulty in consequence of his struggles. The operation was completed in two or three minutes, and the patient remained quietly on his back with his eyes closed. On examination the pupils were found to be dilated;

the pulse was not materially affected. After he had lain about two minutes I roused him by the inquiry, "how do you do to-day?" to which he replied, "very well, I thank you." I then asked what he had been doing? He said he believed he had been dreaming; he dreamed that he was at home, and making some examination into his business. "Do you feel any pain?" "No." "How is that tumor of yours?" The patient raised himself in bed, looked at his thigh for a moment, and said, "it is gone, and I'm glad of it." I then enquired if he had felt any pain during the operation, to which he replied in the negative. He soon recovered his natural state, experienced no inconvenience from the inhalation, was remarkably free from pain, and in three days went home into the country.

In all these cases there was a decided mitigation of pain; in most of them the patients on the day after the operation, and at other times, stated, that they had not been conscious of pain. All those who attended were, I think, satisfied of the efficacy of the application in preventing, or, at least, greatly diminishing the suffering usual in such cases. The phenomena presented in these operations afford grounds for many interesting reflections, but it being my principal intention at this time to give a simple statement of facts, I shall not pursue the subject further, but close with two or three remarks.

1st. The breathing of the ethereal vapor appears to operate directly on the cerebral system, and the consequent insensibility is proportionate to the degree of cerebral affection.

2d. Muscular power was for the time suspended in some cases, in others its loss was partial, and in one instance was scarcely sensible. The great relaxation of muscular action produced by a full dose of the application, leads to the hope that it may be employed with advantage in cases of spasmodic affection, both by the surgeon and by the physician.

3d. The action of the heart is remarkably accelerated in some cases, but not in all.

4th. The respiration is sometimes stertorous, like that of apoplexy.

All these changes soon pass off without leaving any distinct traces behind them, and the ordinary state of the functions returns. This has been the course of things in the cases I have witnessed, but I think it quite probable, that so powerful an agent may sometimes produce other and even alarming effects. I therefore would recommend, that it should never be employed except under the inspection of a judicious and competent person.

Let me conclude by congratulating my professional brethren on the acquisition of a mode of mitigating human suffering, which may become a valuable agent in the hands of careful and well-instructed practitioners, even if it should not prove of such general application as the imagination of sanguine persons would lead them to anticipate.—

Boston Medical and Surgical Journal.

Boston, Dec. 3, 1846.

THE SUCCESSFUL TREATMENT OF AN ALVEOLAR ABSCESS, CONNECTED WITH THE NASAL OPENING, OF EIGHT YEARS STANDING.

BY DR. JOHNSON, OF BOND STREET.

Mr. Editor:—

The following case may be of some interest to the profession, and if you feel disposed to give it a place in the *Recorder*, you have the liberty to do so.

A. JOHNSON.

Seven years ago, a gentleman called upon me for counsel, who had suffered much from an alveolar abscess, of eight years standing. The abscess was produced by the diseased condition of the right central superior incisor, and located at its extreme point, passing into the nasal opening, from which was a continual discharge of purulent matter, amounting to more than a table spoonful daily. This gentleman, previously to consulting me, had been under the care of the most eminent dental surgeons and surgeons of the country, with no improvement—but rather an increased state of the disease. The plan of treatment pursued up to this time was the usual local one, of injecting a variety of medicinal preparations into the

abscess; but, finding it had no beneficial influence over the disease, I was induced to change the mode of treatment, and to try general or internal remedies, with the view of operating upon, or affecting, the whole system, from a belief that the obstacle to the cure of the abscess was more in an unhealthy condition of the system, than in the obstinacy of the local disease. The following medicine was administered with entire success:—

R. Arg. Nitri . . . ij gr.

Sacch. Lactis : . 30 “

Mix and divide into thirty parts, one of which was taken three times a day, and on the seventh day a decided improvement was apparent, and the discharge from the abscess lessened one-third. The medicine was continued, and at the expiration of thirty days the discharge had ceased, and the opening almost closed; the general health much improved. The administration of the medicine was now changed from three to two doses per day, morning and evening, and continued for sixteen days longer, when the gentleman found himself wholly recovered, both in local and general health.

DESTRUCTIVE EFFECTS OF CAMPHOR ON THE TEETH.

[To the Editor of THE LANCET.]

SIR,

It may be interesting to your correspondent in the last LANCET, and probably to some others of your numerous readers, to know that the action of camphor upon the teeth has been noticed by another observer. Mr. Tearne states that he has consulted many eminent professors of the dental art on the subject, but none (one excepted) had noticed this fact. However this may be, my attention was first called to the subject about seven years ago, by observing in a family the prevalence of decay in the teeth, at that part of the tooth where the enamel terminates and the protection of the gum commences. Now, it is well known that the enamel, as it approaches this point, is gradually attenuated, until it terminates almost imperceptibly; and, as a necessary consequence, the effect of any menstruation or agent would be more readily displaced there than at any other part of the tooth.

In the case in question, the enamel was extremely friable, throughout the entire series of the teeth, (but more particularly in the molares,) and easily shattered and removed with the slightest touch of the point of an instrument. On inquiry, the parties were found to be vigorous employers and defenders of camphor, in the form of dentifrice and lotion for the teeth. Now, an hereditary or constitutional tendency to this form of decay of the teeth may be suggested as a probable explanation of the circumstance in this case; and I should have thought so too, had I not, from that time to this, noticed frequently—I had almost said constantly—these results go *pari passu* with the application of camphor; so much so, that I cannot consider the coincidence otherwise than *cause* and *effect*.

There is another way in which camphor displays its disorganizing effects on the enamel. In the case of aching teeth which have for some time been treated with a solution of camphor (a common domestic remedy), in the hope of avoiding extraction, it communicates such brittleness to the tooth as greatly to increase its liability to be crushed during the operation, when no longer to be postponed.

In conclusion, I cordially agree with Mr. Tearne, that “society should be cautioned against the use of camphor as a dentifrice;” and I recommend those who entertain any strong *penchant* for its employment, and have had recourse to it for any length of time, to examine their teeth at the points above indicated, and they will find at least such intimation of danger as will induce them to substitute a less stimulating and destructive agent, if not abundant reason for recourse to the dentist.

I am, Mr. Editor, Your obedient servant,

WILLIAM HANT.

Yeovill, Somersetshire, Sept., 1846.

REPORT OF THE PROCEEDINGS OF THE PENNSYLVANIA SOCIETY OF DENTAL SURGEONS.

Philadelphia, Dec., 1846.

The Society met, pursuant to a call, on Tuesday evening, Dec. 8th, at seven o'clock, at the Philadelphia Museum building: President, Dr. G. Planton, in the chair, and

Mr. C. C. Williams, Secretary. After the minutes of the previous meeting were read and adopted, the committee on procuring a vignette to head the certificate of membership reported, showing various designs. Some little discussion here ensued on the merits of the different designs; and some being in favour of a plain certificate, it was finally determined to have a certificate of membership without vignette, and a committee was appointed to procure them.

A letter from Dr. Arthur was now read, offering his resignation, in consequence of his removal to Washington, D. C. It contained much good advice in the way of suggestions, and urged upon the members a determined prosecution of the work of advancement in which they were engaged. His resignation of the offices which he held, (those of corresponding secretary and one of the examining committee,) was accepted, and the corresponding secretary, who was subsequently elected, was instructed to confer with him and inform him that the Society still considered him a member.

The Society now went into an election for corresponding secretary, which resulted in the election of Dr. J. D. White. After some desultory remarks in regard to the filling up the vacancy in the examining committee, a ballot was decided upon, when Dr. G. Planton was elected.

On motion of Dr. E. Parry, it was resolved, that oral communications be made to the Society of all cases of note or peculiarity. Dr. P. then gave descriptions of several cases that had come under his notice, some of which were of considerable interest; he was followed by others.

Messrs S. S. White and S. J. Dickey were appointed to prepare essays, to be delivered before the next stated meeting.

Would time allow, we would be pleased to give you in detail some of the cases—particularly those of a peculiar character—which were brought before the Society; there were several of importance, and would no doubt be of interest to the profession; but we must forbear.

There was but a slim attendance at the meeting, but those present were of the right sort, men of standing and experience, who

have at heart the advancement of the profession. They have much to contend against in the prejudices of some and the opposition of others, but we trust they will not get discouraged, but press on until they see the Dental profession take rank next to medicine.

Yours, M.

THE EXAMINATION OF THE SEVERAL MATERIALS NOW IN USE FOR FILLING TEETH.

(Continued from page 47.)

Metals, the oxides of which are reduced to the metallic state by a red heat.

It is always generated when chloride comes in contact with mercury at common temperatures; and also by the contact of metallic mercury and the bichloride. It may be made by precipitation, by mixing nitrate of protoxide of mercury in solution with hydrochloric acid or any soluble chloride. It is more commonly prepared by sublimation. This is conveniently done by mixing 272.84 parts or one equivalent of the bichloride with 202 parts or one equivalent of mercury, until the metallic globules entirely disappear, and then subliming. When first prepared, it is always mixed with some corrosive sublimate, and therefore, should be reduced to powder and well washed, before being employed for chemical or medical purposes.*

When obtained by sublimation it is in semi-transparent cakes; but as formed by precipitation, it is a white powder. Its density is 7.2.

* It was formerly the custom to submit calomel to very numerous sublimations, under the idea of rendering it *mild*; but these often tended to the production of corrosive sublimate; and the calomel of the first sublimation, especially if a little excess of mercury be found in it, is often more pure than that afforded by subsequent operations. The following are the directions given in the *Lond. Pharmacop.*

"Take of oxymuriate of mercury, 1 lb.

—purified mercury, *by weight*, 9 oz.

Rub them together until the metallic globules disappear; then sublime: take out the sublimed mass, reduce it to powder, and sublime it in the same manner twice more successively; bring it to the state of a very fine powder; throw this into a large vessel, full of water; then stir it, and, after a short interval, pour the supernatant turbid solution into another vessel, and set it by, that the powder may subside. Lastly, having poured away the water, dry the powder."

It will be observed that in these processes the operation consists in reducing the bichloride to the state of protochloride by the addition of mercury.

At a heat short of redness, but higher than the subliming point of the bichloride, it rises in vapor without previous fusion; but during the sublimation a portion is always resolved into mercury and the bichloride. It is yellow while warm, but recovers its whiteness on cooling. It is distinguished from the bichloride by not being poisonous, by having no taste, and by being exceedingly insoluble in water. Acids have little effect upon it; but pure alkalies decompose it, separating the black protoxides of mercury.

Bichloride of Mercury, (When mercury is heated in chlorine gas, it takes fire, and burns with a pale red flame, forming the well known medicinal preparation and virulent poison *corrosive sublimate*, or bichloride of mercury. It is prepared for medical purposes by subliming a mixture of bisulphate of the peroxide of mercury with chloride of sodium or sea-salt.* The exact quantities required for mutual decomposition are 298.2 parts or one equivalent of the bisulphate, to 117.44 parts or two equivalents of the chloride. Thus,

1 eq. Bisulphate of Mercury.
Sulphuric Acid 80.2 or 2 eq. 2SO₃
Perox. of Merc. 218 or 1 eq. HgO₂

298.2 HgO₂ + 2SO₃

2 eq. Chloride of Sodium.
Chlorine 70.84 or 2 eq. 2Cl.
Sodium 46.6 or 2 eq. 2Na

117.44 2 (Na+Cl)

and by mutual interchange of elements they produce.

1 eq. Bichloride of Mercury.
Mercury 202 or 1 eq. Hg.
Chlorine 70.84 or 2 eq. 2Cl

272.84 Hg+2Cl

2 eq. Sulphate of Soda.
Soda 62.6 or 2 eq. 2NaO
Sulph. Acid 80.2 or 2 eq. 2SO₃

142.8 2 (NaO+SO₃)

The products have exactly the same weight (272.84 + 142.8 = 415.64) as the compounds (298.2 + 117.44 = 415.64) from which they were prepared.

Bichloride of mercury is usually seen in the form of a perfectly white semi-transparent mass, exhibiting the appearance of imperfect crystallization. It is sometimes procured in quadrangular prisms. Its sp. gr. is 5.2, its

* The following is the process followed at Apothecaries Hall, (Lond.) 50 lbs. of mercury are boiled with 70 lbs. of sulphuric acid, to dryness, in a cast-iron vessel; 62 lbs. of the dry salt are triturated with 40 1-2 lbs. of mercury, until the globules disappear, and 34 lbs. of common salt are then added. This mixture is submitted to heat in earthen vessels, and from 95 to 100 lbs. of calomel are the result. It is to be washed in large quantities of distilled water, after having been ground to a fine and impalpable powder.

taste is acrid and nauseous, leaving a peculiar metallic and astrigent flavour upon the tongue. It dissolves in 20 parts of water at 60°, and but twice its weight at 212°. It is more soluble in alcohol than in water. When heated, it readily sublimes in the form of a dense white vapour, strongly affecting the nose and mouth. It dissolves without decomposition in hydrochloric, nitric, and sulphuric acids: the alkalies and several of the metals decompose it.

Its aqueous solution is gradually decomposed by light, calomel being deposited.

The pure and carbonated fixed alkalies throw down the peroxide of mercury from a solution of corrosive sublimate; ammonia on the contrary, causes the deposition of a white matter which is commonly known as *white precipitate*.*

The presence of mercury in a fluid, supposed to contain corrosive sublimate, may be detected by concentrating and digesting it with an excess of pure potassa. Peroxide of mercury, which subsides, is then sublimed in a small glass tube by means of a spirit-lamp, and obtained in the form of metallic globules. When the bichloride is mixed with organic substances, Christian recommends that the liquid, without previous filtration, be agitated with a fourth of its volume of ether, which separates the poison from the aqueous part and rises to the surface. The ethereal solution is then evaporated on a watch-glass, the residue dissolved in water, and the mercury precipitated in the metallic state by protochloride of tin at a boiling temperature.†

A very elegant method of detecting the presence of mercury is to place a drop of the suspected liquid on polished gold, and to touch the moistened surface with a piece of iron wire or the point of a penknife, when the part

* This substance has been recently examined.* It was found that a slight excess of ammonia being added, just one half the chlorine of the corrosive sublimate was separated, the other half remaining in the solution with the ammonia. The precipitate, nevertheless, did not contain calomel. It was found to be composed of

Mercury	78.6
Chlorine	13.85
Ammonia	6.77
Hygrometric water } loss and oxygen, }	.78

Its atomic constitution would appear from this analysis to contain the compound radical which is the base of the amides

† If, as is probable, most of the poison is already converted into calomel, and thereby rendered insoluble, as many vegetable fibres should be picked out as possible, and the whole at once digested with protochloride of tin. The organic substances are then dissolved in a hot solution of caustic potassa, and the insoluble parts washed and sublimed to separate the mercury †

* Kane in *Trans. Irish Acad.* xvii. † Christison on *Poisons*.

touched instantly becomes white, owing to the formation of an amalgam of gold. This process was originally suggested by Sylvester, and has since been simplified by Paris.*

Many animal and vegetable solutions convert bichloride of mercury into calomel. Some substances effect this change slowly; while others, and especially albumen, produce it in an instant.

Into a solution of corrosive sublimate drop a solution of albumen, made by mixing a portion of white of egg with water, a white flocculent precipitate subsides, which Orfila has shown to be a compound of calomel and albumen, and which he has proved experimentally to be inert. Consequently, a solution of the white of eggs is an antidote to poisoning by corrosive sublimate.

Protiodide of Mercury, is obtained by mixing nitrate of protoxide of mercury in solution, with iodide of potassium; when the latter is added to the mixed nitrates of the protoxide and peroxide of mercury, the latter in excess, the *sesquiodide* falls.

Binioidide of Mercury. This compound is formed by mixing nitrate of the peroxide or bichloride of mercury with iodide of potassium in solution, and falls as a rich red-coloured powder of a tint which vies in beauty with that of vermilion, though unfortunately, the colour is less permanent. Though insoluble in water; it dissolves freely in an excess of either of its precipitants. If taken up in a hot solution of nitrate of peroxide of mercury, the binioidide crystallizes out on cooling in scales of a beautiful red tint. The same crystals separate from a solution in iodide of potassium; but if the liquid be concentrated, a double iodide of mercury and potassium subsides.

The binioidide, when exposed to a moderate heat, gradually becomes yellow; and the particles, though previously in powder, acquire a crystalline appearance. At about 400° it forms a yellow liquid which slowly sublimes in small transparent scales, or in large rhombic tables, when a considerable quantity is sublimed. The crystals retain their yellow colour at 60° if kept very tranquil; but if the temperature be below a certain point, or they are rubbed or touched, they quickly become red.† This phenomena is entirely due to a change in molecular arrangement: the different colours so often witnessed in the same substances at different temperatures, as in peroxide of mercury and the protoxides of lead and zinc, appear to be phenomena of the same nature.

Protosulphuret of Mercury, may be prepared by transmitting a current of hydrosulphuric acid gas through a dilute solution of nitrate of protoxide of mercury, or through water in which calomel is suspended. It is a black-

coloured substance, which is oxidized by digestion in strong nitric acid. When exposed to heat it is resolved into the bisulphuret and metallic mercury.

Bisulphuret of Mercury, is formed by fusing sulphur with about six times its weight of mercury, and subliming in close vessels. When procured by this process it has a red colour, and is known by the name of *facititious cinnabar*.* Its tints is greatly improved by being reduced to powder, in which state it forms the beautiful pigment *vermilion*. It may be obtained in the moist way by pouring a solution of corrosive sublimate into an excess of hydrosulphate of ammonia. A black precipitate subsides, which acquires the usual red colour of cinnabar when sublimed.

Cinnabar is not altered by exposure to air or moisture; when heated to dull redness in an open vessel, the sulphur forms sulphurous acid, and the mercury escapes in vapour. It is decomposed by distillation with fixed alkalies, lime, and baryta, and by several of the metals. When adulterated with red lead it is not entirely volatile.

Native Cinnabar is the principal ore of mercury; it occurs massive and crystallized of various colours, sometimes appearing steel-gray, at others bright red. Native mercury and native amalgam of silver sometimes accompany it.

When equal parts of sulphur and mercury are triturated together until metallic globules cease to be visible, the dark coloured mass called *ethiops mineral* results, which Brande has proved to be a mixture of sulphur and bisulphuret of mercury.†

* In the manufacture of cinnabar, 8 parts of mercury are mixed in an iron pot with one of sulphur, and made to combine by a moderate heat, and constant stirring; this compound is then transferred to a glass subliming vessel, (on a small scale a Florence flask answers perfectly,) and heated to redness in a sand-bath; a quantity of mercury and of sulphur evaporate, and a sublimate forms which is removed, and rubbed or levigated into a very fine powder.

† *Jour. of Sci.* vol. xviii. p. 294.

(To be continued.)

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to Asahel Jones's General Agent, 263 Broadway.

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All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

* *Medical Jurisprudence*, by Paris and Fonblanque.

† This appears to have been first noticed by Hayes, who has given an economical process for preparing the compound in *Amer. Jour.* xvi. 174.

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol 1.

FEBRUARY 1, 1847.

No. 6.

[For the DENTAL RECORDER.]

DR. WARE,

I have received from the Recording Secretary of the American Society of Dental Surgeons a blank Protest against the use of "any amalgam whatever" for filling carious teeth, and a pledge, not to use it in my practice, which, being a member of that Society, I am "required" to sign. As one of the accompanying resolutions requests "that those who do not see fit to sign the protest directed by the Society at this session (1846), be requested to transmit to the Recording Secretary their exact views upon this subject, setting forth the reasons why they decline complying with the requisition"—and, as I am one of this number, I beg leave to return my reasons to the Recording Secretary through the columns of the Dental Recorder.

It is now about fifteen years since the use of amalgam for filling teeth was first publicly introduced into the city of New York, under the name of "Royal Mineral Succedaneum," by two of the vilest quacks that ever disgraced humanity. These men, I have been informed by the President of the A. S. D. S., did not scruple to remove the best of gold fillings in front teeth, and refill them with an amalgam of silver. For a few months they were run down with patients, having their office constantly filled; but, if they possessed any skill, they were too destitute of all moral principle to exercise it for the benefit of their patients; such was their haste and such the imperfect manner in which they operated upon diseased teeth, that the best article ever used for filling

teeth would have suffered in their hands. The natural consequence of such conduct was, to excite public indignation against these men and against the material which they used. This excitement was increased by the Dentists, who published a circular in the papers denouncing the men, and assuring the public that in several cases great injury had been done by the Mercury contained in the Mineral Succedaneum. So great was the excitement against them, that they were at length obliged to flee from the city, and barely escaped from the officers of justice, who were close upon their heels.

Upon the subject of the merits of amalgam for filling teeth, I shall at present have but little to say. No article, which is supported by any respectable authority, should be condemned without first giving it a fair trial, and time must be given to test the qualities of any material used to arrest the decay of the teeth. That amalgam, since its first introduction by the Crawcours, up to the present time, has not had a fair and impartial trial I am willing to believe. It has generally been in the hands of the worst operators, men who possessed neither scientific nor artistical skill in the use of gold, nor common honesty as men, and has therefore been used to a great extent in the worst possible manner. A very impure article has generally been used, made of base or adulterated metals, and this has often been put into teeth in the front part of the mouth, which have been stained so black by it, that they had to be removed and artificial ones substituted.

‡ Amalgam has also been used, mostly, to

fill the worst class of decayed teeth where the caries had progressed so far, and the surrounding parts had become so much diseased, that no treatment was proper but extraction. In such cases, particularly if there is a discharge through the tooth, the operation of filling with any material will frequently aggravate all the symptoms of inflammation, causing an increase of heat, pain, redness, and swelling, often accompanied by a symptomatic fever, swelled tongue, foetid breath, soreness of all the adjoining teeth, an increased flow of saliva, and other symptoms which may easily be mistaken for the constitutional effects of Mercury. The natural consequence of all this has been, with the help of a few interested and prejudiced Dentists, possessing considerable influence, to create a strong opposition in the public mind against the use of "Mineral Paste" for filling teeth, under any circumstances whatever. Such a use of gold or tin, or any other material, would long since have caused it to be condemned in the same way.

Any candid and unprejudiced mind will readily perceive that with a fair trial, in the hands of men of good judgment, skill, and scientific attainments in their profession, the result *might have been* entirely different. That it would certainly have been different, I will not pretend to say; nor is it material that I should, at this time, give even an opinion. I am contented to wait a little longer, knowing that Amalgam is now in the hands of a different class of Dentists, who are capable of thoroughly examining and faithfully testing its qualities, as a material for arresting disease in the teeth.*

* I have the names of one hundred and sixty-eight Dentists in the city of New York and vicinity, and among them there are but twenty-three who do not, under some circumstances, use amalgam for filling teeth. There are, among this latter number, eight of whom I cannot say whether they use it or not, and of the remaining *fifteen*, there are *six* who would occasionally use it, if it were not for the cry of "mad dog" that has been raised about it.

Who will say that all the Dental science and skill in New York and vicinity is possessed by *nine* Surgeon Dentists?

Furthermore, I am informed by those who supply Dentists with teeth and other materials,

For several years previous to the time when the American Society of Dental Surgeons issued their first protest against Amalgam, I had occasionally used it in my practice. There are certain doubtful cases, which seem hardly to justify the Dentist in expending two or three hours time and a large quantity of gold, subjecting the patient to a heavy bill of expense, when the chances are that the tooth will last, or the filling remain in, but a few months or years at the longest, or where the sides of the cavity are so thin and weak, or so much broken away, that gold or tin can not be used. Such cases, when I could not prevail upon my patients to have them extracted, or where they were of so much importance as to make it imperative upon me to attempt to save them, I had filled with Amalgam.

In August, 1846, the Society determined to rid itself of all those members who used the article, and as there were many of my personal and professional friends who were members, and as I entertained a high respect for the Society itself, and believed that it had contributed to the elevation and respectability of our profession, after consulting with several other members, who expressed themselves willing to make the same concession, I sent to the President a communication, containing the following "sentiment" or opinion.

"5th. I had myself used the article for more than eight years, never from choice, but only when I could use neither gold nor tin; in all these cases I had used it experimentally, watching the effect of the operation with great care, and I can now truly say, that I have never seen any bad effects result from its use, which I have not seen from the use of both gold and tin; but that, in many cases, it has preserved the teeth, strengthening and making them useful organs of mastication for many years. Entertaining these views, I felt exceedingly unwilling to abandon the use of the amalgam; but as many of the members of this Society, who have used this article more than I have, and for whose opinion I have the highest regard, have decided to use it no more, and as I do not wish to impose the slightest obstacle to the success, union and harmony of the Society, I cheerfully consent to do the same, hoping that all the members will feel the importance

that I may safely say that three-fourths of all the Dentists in the United States use amalgam in their practice.

of making mutual concession, if they would be a happy, useful and prosperous Society."

In doing this, I felt that I was conceding a great deal to promote harmony in the Society, and I had a right to expect that it would have met with a liberal response from those who were "tetotally" opposed to amalgam; but, instead of this, an odious protest was ordered to be sent to each member, those of us who had agreed not to use it, and those who had never used it, as well as the rest, accompanied by a copy of the resolution of the Society, "notifying such member, that unless he shall subscribe, with his own proper signature, the said protest, and return the same to the recording secretary within sixty days of the time the said notice is issued * * * he shall be considered as *UNWORTHY to be a member of the American Society of Dental Surgeons, and shall stand expelled from the same.*" Was there ever a more arbitrary measure proposed in any society, or more insulting language used to bully and threaten its members? *Unworthy to be a member!* And for what, pray? Because he refuses, or neglects, publicly to condemn that which he does not believe to be bad, or, in other words, deliberately subscribe to a LIE. As if the legislature of a state, in addition to a statute against the sale of ardent spirits, were to issue a protest against it, and require every citizen to sign it, pledging himself never under any circumstances to use it, under penalty of forfeiting all his rights and privileges of citizenship! How was this protest met by the Society? If I remember right, a majority of only *eleven* out of one hundred and thirty-three members had complied with the requirements of the Society, the remainder preferred to "*stand expelled*" rather than *crouch or kneel* at the threats and commands of the majority.

Through the influence of the recording secretary, who took the responsibility of not obeying the language of this resolution, and a few others, the dissenting members were not permanently expelled from the Society, but another year of grace was allowed them, and in the mean time another slightly modified protest has been issued, which we are

required to sign under the same penalty, if the Society see fit to inflict or impose it at the next annual meeting. Some of my objections against the first protest were published in the American Journal of Dental Science, (Vol. vi, p. 246,) but as the question has been somewhat changed by the action of the Society, I will now give my reasons why I cannot sign the one ordered at its last session, nor the substitute which accompanies it.*

Under the constitution, which existed up to Aug. 1846, certain rights and privileges were guaranteed to each individual member. In the first article (which still exists unchanged in the amended constitution), the right of "*free communication and interchange of sentiments, either written or verbal, between members of the Society, both in this and other countries,*" is guaranteed—nor is there anything in art. 6th, of the old constitution (the one providing for the expulsion of members,) or in any other article, that is inconsistent with, or contradictory to, the first article. Now common sense will tell any man, that to do an act, of which the right to do is guaranteed in the first article of the constitution, such as expressing an opinion,

* I cannot understand why the pledge substituted by the Secretary is less objectionable than the one ordered by the Society. The latter is no more binding upon a Dentist who resigns his membership than is the former, for it is only "as a member," believing that "any amalgam is unfit for plugging teeth or fangs," that he "subscribes and unites himself with them (the members) in their protest against the use of the same." Of course, if his "firm convictions" become changed and he resigns membership, neither protest will remain binding, any more than a temperance pledge is binding upon a person who has withdrawn from a temperance society, and, in either pledge which he may sign, the record will remain to show that he was once opposed to the use of amalgam. If a member believes it unfit to fill teeth with, he has no moral right to use it, whether he has signed the pledge or not; so, on the other hand, if he does not believe it unfit, he has no right to sign either protest, whether he uses it or not. For one, I do not contend for amalgam any more than the Whigs of '76 contended for tea; but, like them, I do contend for my rights, and against the arbitrary power exercised by the Society. Members may insist upon a right, which they may find it expedient not to exercise.

cannot be a sufficient cause of expulsion. Art. 6th of the constitution our wise Solons thought did not give the majority power enough, inasmuch as some members might claim that, after forming and expressing his opinion upon any subject, he had a right to practice according to that opinion: so, to put this matter at rest, they amended the 6th article*, by adding to the other causes for expulsion, contained therein, "or for refusing to comply with the requirements of this constitution and by-laws, (always a sufficient cause to expel a member from any society,) *or with the requirements of this Society.*" Now, the first act which the members have been *required* to perform under this amended article of the constitution is, to certify that all amalgams are unfit to fill teeth with, to pledge themselves never, *under any circumstances* (which cuts off all experiments), to make use of it in their practice as dental surgeons, and to protest against the use of the same.

According to the first article of the constitution, he may advocate the use of amalgam for filling teeth, by a "free communi-

* I protest against these amendments to the constitution as being illegally made, and therefore not binding upon the members, and for the following reasons. On the second day of the session, "the President notified those present, who had failed to comply with the requirements of the resolutions, originating the circular, that they could not be regarded as members, till some provision was made by which they could be restored." These resolutions have been shown and admitted to be unconstitutional, and, of course, sixty-two members were expelled illegally: yet, while these members remained disfranchised, and a part of them were engaged in preparing a protest against this illegal expulsion, the remaining members, some ten or fifteen in number, improve the time—how?—by making some provision by which we might be restored—no—they first change and amend the constitution so as to make it suit their convenience, giving a simple majority power to make any requirement they please upon the members, and *two-thirds*, instead of *three-fourths*, of the members, liberty to expel them for refusing, and then they graciously admit us again to our rights as members. Seven members, thus disfranchised, would have voted against these amendments, and at no time, during the proceedings, were there *twenty-one* others present, the number required to outvote them upon any change of the constitution. This is a sample of the fairness of the legislation in the American Society of Dental Surgeons.

cation of his sentiments," and by the sixth, if he refuses to comply with the above requirement, he may be expelled; or, in other words, if he entertains or has expressed an opinion or "sentiment" upon any subject connected with Dental Surgery, which Art. 1st of the constitution allows him to do, and refuses afterwards, if called upon by the Society to do so, publicly to contradict that opinion, he is liable to be expelled. Who does not see that this is both "nonsensical and absurd?" Yet this is the very dilemma into which both the American and Virginia Societies of Dental Surgeons have got themselves, by declaring, *a priori*, the use of amalgam malpractice.

Either the first article of the constitution has no meaning at all, or the sixth, in connexion with the third resolution accompanying this protest, is unjust, arbitrary, and a direct violation of the rights of each member who entertains a different opinion from that expressed in this protest.

But it has been contended, that because the aim of our Society was to correct abuses in the practice of Dental Surgery, that, therefore, it had a "*right*" to declare, *a priori*, what is malpractice, and to discipline its members accordingly, even to expulsion. If by "*right*" is here meant the power, I do not deny the possession of it; but let us examine the expediency and justice of exercising this right, or power; perhaps it may also be found to be "nonsensical and absurd."

Suppose the opinions of the members, coerced by this "gag law," should undergo a silent change upon this subject, and that at some future meeting they should, "as soon as organized, pass resolutions, declaring mineral paste to be the very best known substance for filling teeth, and if, perchance, the minority happened to disagree with them, they would be voted out as unworthy members." Would might make right in this case? Or is the question changed when your bull gores my ox?

That one of the "main ends of the American Society of Dental Surgeons is to correct abuses connected with the Dental Profession," I do not deny. It is, "to give character and respectability to the profession, by establishing a line of distinction

between the truly meritorious and skillful and such as riot in the ill-gotten fruit of unblushing impudence and empiricism." Can character and respectability be given to any society, by suppressing free discussion and expression of opinions among its members? No! one of the principal means of producing this desirable end is, in the language of the constitution, "to advance the science by free communication and interchange of sentiments," not by fettering the sentiments and opinions of members, and tying them down to a routine practice, prescribed and laid out for them by a majority of the Society.

It is true, where free discussion is allowed and men have the liberty of speech and action, that many false and foolish doctrines as well as practices will for a time prevail; but truth will soon expose their fallacy, and in their places establish those of her own creation, which will be the sooner known and embraced for being placed in contrast with the false and the foolish. Under the guarantee contained in the first article of the constitution, therefore, I have expressed my opinion of the practice of using amalgam, to the Society, at its meeting in Aug. 1845, and to my brethren in the profession, out of the Society, at all times, and under that guarantee, I now claim the same right, although circumstances have induced me to relinquish for the present the use of it in my practice. No new light has induced me to change my opinion of the use of amalgam for filling teeth, since that time, and entertaining now the same opinion which I then expressed, I appeal to the President, the Recording Secretary, and to each member of the Society, to say if I am not justified in refusing to sign the protest now offered to me.

Another reason why I object to the action of the Society is, that it is contrary to usage in all scientific societies. A few years since, some zealous opponents to the use of ergot, who believed it "unfit and dangerous" when administered to puerperal women, and that it should never under any circumstances be made use of in the practice of obstetrics, introduced a resolution into the Queen's County Medical Society, declaring that the

use of this article was never justifiable under any circumstances, and the effect of which resolution would have been, to banish it from the *Materia Medica*, but it was voted down, upon the principle that each member had a right to judge what articles were most suitable for him to use in his own practice, otherwise he was unfit to be a member of their society. I have never known an article to be banished from the *Materia Medica*, although, in the progress of the science of medicine, many have gone entirely out of use when found to be inert or injurious. There is hardly an article in the *Materia Medica*, and I may say the same of the materials of the Dentists, but is useful under some circumstances; the malpractice lies, not in the use, but in the abuse or manner of using. As the medicines used are constantly changing, so is the manner of treating disease. Any physician who should, as common practice, treat variola upon phlogistic principles, would soon be convicted of malpractice, and yet there are cases which, in certain stages, require the most active stimulation. These things are left to the judgement of the physician, and the same should be done with the Dentist.

If such liberty is allowed to members of medical societies, engaged in the practice of a science whose principles have been established for centuries, and which deals in the health and lives of men, how much more need of it in one comparatively new, the principles of which are not yet fixed, which requires the experience of all its members in every department of research and experiment to elicit new facts and develop new truths.

Again—it is contrary to all usage, I believe, for voluntary associations to impose a fundamental rule, or law, upon each and every of its members, unless it is done in the manner prescribed by the constitution, in which case it becomes a part of the constitution, and is equally binding upon all its members. I may illustrate this by the progress of the temperance reformation. In my immediate vicinity there were several societies formed, without any pledge of any kind. The general objects of these associations were to suppress intemperance; by

free discussion* to expose its evils, and by moral suasion to induce men to reform. When the pledge against the use of distilled liquors, as a beverage, was found to be more efficient and useful, there was no pretence made that these societies had a right to impose this pledge upon each of its members. New societies were formed, and the old ones, after languishing for a time, were finally discontinued. The same was the case, too, when the "teetotal" pledge, which extended to wines and all intoxicating drinks, was introduced, and took the place of the old one, which only included ardent spirits. In both cases new societies had to be formed, because a *revolution* had to take place in the fundamental law.

If the opponents of amalgam think they have come to a stand, and that they can do nothing more to advance the interests of Dental Science, until the use of this article is entirely suppressed, let them follow the example of their temperance brethren, and form a new society, based upon the principle of total abstinence from the use of mineral paste, and, if they choose, add tin-foil, arsenic, creosote, and as many other articles as they choose. For one, I will bid them God speed in their efforts to advance a useful science, and, when I am convinced that theirs is the better society, I will become an humble candidate for admission.

In a letter published in the American Journal of Dental Science, March 1846, I endeavoured to show that it was injudicious to issue any protest against the use of amalgam, and ventured the prediction that it would be productive of constant trouble to the Society. Subsequent events have shown that I was not wholly incorrect; most of the time during the late session of the Society was occupied upon this subject; in the language of the Recording Secretary, "This subject has been exceedingly trying to the Society, and has elicited feeling and discussion not altogether profitable or pleasant." Must contention always exist among 'us? Are there not objects enough, for the promotion and elevation of Dental Surgery, about which we are agreed, to engage all our efforts and employ all our time and talents, and, with its present degraded and down-

trodden condition, must we fall out and quarrel about the best means of restoring her to respectability and decency? Are we so bigoted and intolerant that we cannot fellowship with those who honestly differ with us in opinion upon a single mode of practice? I quarrel with no man because he thinks mineral paste poisonous, why should he with me, if I believe it wholly innoxious? Let him use his best endeavour to convince me that I am wrong; but if, after all his efforts, I still remain unconvinced, let us agree to differ upon this point, and trusting to time to convince one or the other of his error, let us, in the spirit of charity and brotherly love, unite our energies and go on upon other works of reform, about which we entertain no difference of opinion.

CHARLES C. ALLEN.

No. 13 Park Place,
New York, Jan. 20, 1847.

A review of the "reflections of M. P. A. Grandhomme, on the methods at present made use of, in regulating the teeth, followed by a description of a new process"—vide 3d and 4th Numbers.

BY E. BAKER, D. D. S.

The publishers omitted to mention that this was a translation, in which the technology or description of terms of the art were rendered with some difficulty.

It is also difficult, verbally to describe and give a plain and full account of the manner of proceeding especially, when any mechanical apparatus is to be used or applied, without at the same time making use of diagrams, as is usual in surgical operations, and especially when any mechanical apparatus is made use of after operations.

But although we may not understand *all* Monsieur G——'s descriptions and manner of proceeding, yet we do sufficiently, so as to perceive the principles he attempts to establish, and in which we think he has succeeded. The most important principle in regulating teeth, is to apply that force upon the displaced tooth, so as to tract or most directly force it into its proper place.

But after all that can be said in the way of description, much will depend on the judg-

ment and tact of the operator. The force must be graduated and continued according to the age of the operatee, and we very much doubt whether it be very practicable, safe or even necessary to apply *any* force to regulate the few permanent teeth which may have appeared in the mouth of a child, but seven years of age, as stated in a case by M Grandhomme.

There is certainly no portion of the practice of the Surgeon Dentist (since we have read the review of Dr. Johnson of the London Medical and Chirurgical Review) we eschew and repudiate, the name of "Dentistry", that requires more, if as much experience, judgment or skill, as that of treating the teeth of children, in the best manner, especially if there is, or even a prospect of, irregularity.

In 99 cases out of 100, all irregularities of the permanent teeth, may be *prevented* by extracting one or more of them at the proper time, and a proper judgment should be used in selecting those to be extracted.

We consider, that it can hardly ever be necessary to apply any force to regulate permanent teeth, if proper previous treatment has been done. But if they have been neglected and the teeth being irregular, have acquired a fixed position, then certainly traction or force must be applied to put them into the regular position. When we consider the partial growth and imperfect denture, particularly of the fangs of the teeth of children, until, we may say, nearly 12 years of age, will it be *safe* to apply, but very little force to them, until they arrive nearly to that age?

All branches of the profession are certainly important, but the "one idea" seems to prevail, that the *filling* of the teeth is the *all in all*, not sufficiently considering that the prevention of decay in teeth, is better than cure. Indeed, this "one idea" seems to obtain in the A. S. D. S.,* and it must be done with gold too or

"death is in the pot;" their liberality not extending so far as that of Sam. Patch, who said

Although my *opinions* have been treated with very little respect by this Society, touching this subject,—the unwise action, (as I consider) that had been taken, by the society, relating to it—and although I have been maligned and misrepresented in consequence of the stand I have taken in this affair, yet being *respectfully* requested to give my *views* on this subject, which if I do, it will readily be perceived, why I do *not* sign the certificate; and those, viz., my *views*, will supply the place of *reasons*; and as for *arguments*, they were never recognized by the Society on this subject—and indeed how could it be otherwise, since they *assumed that for a fact*, which they meant to *make a fact* at all hazards.

I repeat; being *respectfully* requested to give my *views* on this subject, I shall do so with candour and brevity.

It has ever been to the great detriment of *truth* and of *science*, that mankind particularly *doctors*, if they form themselves into societies, are very apt to fall into the error of concluding from partial views or first ideas, and then *assuming* a purely hypothetical generalization, as an axiom of science. Now the truth of this *position* can be illustrated by hundreds of facts, and in my humble opinion it is exactly the one in which a portion of the A. S. D. S., are placed by their own acts. They *assumed* in the commencement, that an amalgam of silver and quicksilver used in filling a tooth, was *dangerous* and *unfit* and of course *malpractice*. From a "partial view or first idea," viz. that because the chemist can convert quicksilver into calomel, blue pill, corrosive sublimate and other poisonous forms, therefore quicksilver will *salivate* or *poison*. I will appeal to any one if this is any better reasoning than this, viz: Oxen eat grass, grass is green, therefore oxen are green. Stop, stop, what business have I with reason? The *true* fact is this; the affinity of the quicksilver for silver is so strong that it takes,—as I am told, 700 degrees of heat to separate them; therefore it is preposterous to suppose any absorption of it into the system. So "castle dangerous falls." And this being the case *fitness* follows *unfitness*, joy follows sorrow, for instead of the "wailing and gnashing" of aching hollow teeth, they can by proper treatment, and this blessed (but abused article) be made artificially sound—and no mistake. I mean as a general rule, and these are the teeth in which it is superlatively useful, and I hail the use of it, as one of the most important eras, preventing human suffering and promoting human enjoyment, since the discovery of Jenner.

But I hear such language as this in one of the resolutions, Resolved—"We retract nothing as regards our sentiments, expressed in the resolution relating to the use of amalgams, and we are still determined to free ourselves from the *odium* necessarily attached to this reprehensible 'practice.'"!!!

* A note is often very convenient and I avail myself of it to pay my respects, &c.

Another certificate based on the resolutions of the A. S. D. S., adopted at their last meeting, has been circulated to be signed by the members who did not sign that of the year 1845, *respectfully* requesting, that each member so addressed, would respond promptly to this communication, either by signing the protest accompanying it, or "that those who do not see fit to *sign* the protest, be requested to transmit to the recording secretary their exact *views* upon this subject, setting forth their *reasons* why they decline complying with the requisition.

that "some things could be done as well as others." Dr. Johnson says, he is informed by

Now gentlemen, I beg of you to clear yourselves of the *odium* of wilfully shutting your eyes against the truth—cast the beam of prejudice out of your own eyes, for I never have seen a person of the three liberal professions or an intelligent citizen, who, when he heard of your monstrous assumptions, did not raise a horse-laugh or curl the lip in utter contempt.

One cannot help remarking the great difference of spirit and style of the first resolutions and certificate and those of the last. The first "breathed out slaughter and threatenings" and you would suppose one of the most formidable beasts mentioned in Revelations, was close at hand—but the next has such words as "respectfully requested, &c."

Now this difference of tone and style, reminds me of a story told by Dr. Franklin, I think when employed as an agent by some of the colonies as we then were, at the court of Great Britain. The story was called "the Frenchman and his poker."

It is a long time since I have seen this story in print. A story of Dr. Franklin's is too good to "be mared in telling," from memory. The appropriateness of it will commend itself to those acquainted with the facts—issuing certificates, &c., and all will end probably by only begging pay for heating "de pokar."

Before I dismiss this subject, I feel bound in justice to Dr. Brewster of Paris, to notice Dr. Westcott's treatment of that gentleman.

In support of my practice of using amalgam "in certain cases" I published in the Baltimore Dental Journal, a letter of Dr. B., wherein it appears, he had arrived at the same conclusions, as regards the use of it, as myself and "he practised accordingly," stating also, that the practice of the principal Dentists in Europe, was the same.

Now I take it on myself to say, it would be hard to find in any "Grub-street" production, a grosser misstatement of facts, or a more ungentlemanly impeachment of motives, than is contained in Dr. Westcott's notice of Dr. Brewster's letter—vide p. 314 of the Baltimore Dental Journal for June, 1846. Dr. Brewster's letter is in the same No.

And this is a specimen of Dr. W's characteristic manner of treating *all* who differ with him in opinion, as far as I have witnessed.

Now that Dr. W. is a man of some cleverness, of unbounded vanity and self-esteem and well skilled in the art of sophistry, there can be no doubt. But in comparison to Dr. Brewster as an accomplished Dentist, he is but yet in the chrysalis state and must be content to stand far below him, in a professional point of view.

I dislike to allude to the Dr.'s treatment of myself, in his writings against me, but feel constrained to say and will cite but one circumstance. He made use of the *mendacity* of a person (though ignorant of it at the time as I now believe) who instead of belonging to the A. S. D. S., should be where nature intended him, "selling old clothes." Finally as the Dr. has

those who know, that the "American Dentists" are extremely adroit at filling a hollow tooth with gold, and he adds (par parenthese and sarcastically) that these are not the *only* hollows we contrive to fill with the same precious metal—"thank you Dr. we owe you one."

But to our subject, Monsieur G—, commences by enumerating most of the usual methods of regulating teeth beginning with that of luxating or partially extracting a tooth in order to regulate it. Such a practice has been heard of, but it is difficult to conceive that any one should be so barbarous and ignorant as to put it in practice.

Next he adverts to the use of ligatures. It is unnecessary to mention anything more than his description of their modes of action, which follows, after describing their manner of attachment to the teeth, viz. "Ligatures tend to bring nearer together the teeth to which they are affixed in order that the reduction may be effected, it is necessary that the tooth on which is sought to establish as a fulcrum, shall have been chosen as the one most solidly implanted and immovable. When the deformity is anterior, the ligature passes within the dental arch and forms the chord of an arc, comprised between its two points of attachment. When it is posterior, it passes outside of the convexity of the arc, upon which it presses forcibly. The threads are tightened every three or four days, every time in short, when they cease to be in a state of tension. It is recommended to place the ligatures on the crown of the tooth as far distant from the gum as possible, but notwithstanding they are apt to slip on to the necks of the teeth and irritate the gums.

The slipping of the ligature on to the necks of the teeth is certainly an objection; but this may be prevented by using the simple apparatus of Dr. Allen, which is described in a note in the 2d No. of the Recorder.

"The power of traction is exercised by a double power, first by traction of the operating power, and secondly by retraction of the ligature which diminishes in length, as soon as it is impregnated by the fluids of the mouth."

It is a little remarkable that M. G—, in this part of his work, which he evidently means to place in contrast with his own method, mentions no kind of ligatures in use but

now become a Professor, it would delight me exceedingly if he would not only profess but improve in courtesy and manners.

those of silk or thread. But in the second part of his work when treating of his own method, he uses gum elastic for ligatures in connection with his apparatus. He must have been aware that many made use of India rubber, alone in most cases in reducing irregularities, and we think that in most cases it is competent, for that purpose, and have already so expressed an opinion in a former No. To be sure there is a retraction in a silk ligature, when it becomes wet and perhaps a still greater when one of cotton or flax is used.

We have sung or said much in praise of the virtues and usefulness of Caoutchouc and particularly when used as ligatures in regulating teeth. The tension of it continues for a much longer space of time than that of any other ligature, and its strength can be regulated according to the circumstances of the case. It would appear that it approaches nearer to the nature of a *living* muscle than any thing else known.

We cannot but think that an extract from the lecture of Monsieur Pouellet a member and lecturer at the Sorbonne in Paris, will be both interesting and instructive, respecting the nature and cause of muscular power and also the cause of contraction in ligatures as well as in the muscles.

"A contracted muscle or one in the act of contracting, increases prodigiously in force, by the closer approximation of its molecules; this is partly because as it diminishes in length, it increases in thickness, but the difference of cohesive strength or tension between the living and dead muscles depend mostly on the vessels which pervade the former, being full during life; whereas after death, they are of course empty. While they are full, the force applied to the muscle acts equally, upon all its fibres and the tension of all its parts, being equal, the force is equally divided:—thus the strength of the *wet cord* or cable is far greater than that of a dry one of the same thickness, because the penetrating moisture gives an equality of tension to its fibres."

But to return to Monsieur G—, "but how does it (the tooth) yield? It evidently represents a lever of the first class. The fulcrum is at the extremity of the root, at the bottom of the alveolus; the obstacle to be surmounted is represented by a long wall against which the power will be exercised and is accompanied in its length by that same fang, and which constitutes the arm of resistance, whilst that of the power is formed by all that portion of the tooth, situated above it. The action of this last will be, as is obvious, in the ratio of its length; this length is measured by the space which separates the resistance of the point of insertion from the force destined to move the lever, that is to say, by the existing interval between the end of the fang and the ligature. We have

said that the ligature is liable to slip on to the neck of the tooth, from whence it follows that the interval is diminished, and a great part of the force is lost by reason of the limited power which remains. This power being applied to the fang against the alveolar process, tends to make it yield by reason of the conical form of the fang and the alveolar being converted into a kind of inverted plane, the tendency of the power is to draw the tooth out of the alveolus. Moreover on account of the circular form of the jaw, the action of the ligature being necessarily oblique, the tooth in proportion as it is reduced, either forwards or backwards, is more or less displaced laterally and the action of the ligature being exhausted as soon as the least approximation is produced, it remains suspended until new tractions are applied—the force is intermittent and unsteady. The effect of the ligature, we consider then far from being satisfactory, and as the teeth are living bodies, we consider the prolonged contract of ligatures to them highly objectionable. The gums under which the ligature slips, suffers from its presence, becomes tumid, painful and inflamed.

"The alveoli-dental periosteum is also soon attacked by inflammation and the double influence of the contiguity of the inflamed gums and the strangulation of the alveolar periosteum, must soon produce deliterious effects on the teeth.

"We will conclude by remarking, that the ligature is insufficient, in many cases and may be dangerous in others. It is applied with difficulty, when there are a number of teeth to be reduced at once,—that it is slow in action, that it supposes fulcra which are not developed before the age of ten or twelve years, a circumstance of great importance—in short the practice may bring with it danger to the very points d'appui themselves."

(To be continued.)

THE EXAMINATION OF THE SEVERAL MATERIALS NOW IN USE FOR FILLING TEETH.

(Continued from page 60.)

Metals, the oxides of which are reduced to the metallic state by a red heat.

Mercury combines with most of the other metals, and forms a class of compounds which have been called *amalgams*. These are generally brittle or soft. One part of potassium with 70 of mercury produces a hard brittle compound. If mercury be added to the liquid alloy of potassium and sodium, an instant solidification ensues, and heat enough to inflame the latter metal is evolved. The amalgams of gold and silver are employed in gilding and silvering.

An amalgam of 2 parts of mercury, 1 of bismuth, and 1 of lead, is fluid, and when kept for some time, deposits cubic crystals of bismuth.*

By combination with mercury, metals that

* For the method of making an amalgam of copper see Aikin's *Dict.*, art. *Mercury*, p. 92. Thomson's *Chem. of Inorg. Bodies*, i. 626.

are not easily oxidized, acquire a facility of entering into union with oxygen.* Thus gold and silver, when combined with mercury, are oxidized by ignition in contact with air. This fact furnishes a striking illustration of the effect of overcoming the aggregative affinity of bodies in promoting chemical union.

When mercury is negatively electrized in a solution of ammonia, or when an amalgam of potassium and mercury is placed upon moistened hydrochlorate of ammonia, the metal increases in volume, and becomes of the consistency of butter, an appearance which has sometimes been called the *metallization of ammonia*. It has suggested some hypotheses concerning the nature of ammonia and the metals.†

We have now placed before our readers the materials and process of preparing many of the preparations of quicksilver, used at the present day for medicine and the arts; and, after a careful perusal of them, will any one have the boldness to say that quicksilver, when chemically united with silver and put into the cavities of teeth, can be changed (when in the mouth,) into any one of those preparations, or any other compound of quicksilver which will produce mercurial salivation; for it must be observed, that every chemical compound requires uniformity in proportion of each material and the process of manufacture, in order to secure the same results. For example: to manufacture oxymuriate of mercury, or corrosive sublimate, it is necessary to have 32 oz. of

purified quicksilver, 30 oz. sulphuric acid, 4 lb. dried muriate of soda.* Boil the quicksilver with the sulphuric acid in a glass vessel until the sulphate of mercury shall be left dry. Rub this, when it is cold, with the muriate of soda in an earthenware mortar; then sublime it in a glass cucurbit, increasing the heat gradually. This is an extremely acrid and violently poisonous preparation.

In the manufacture of oxymuriate of mercury, *common salt* is changed, by the chemical union with sulphuric acid and quicksilver, from a mild and highly useful compound, into a violent poison, and this very poisonous mineral compound may be changed into a comparatively mild medicinal agent, without the addition of any new material, by simply changing the proportion of one of the articles from which it is compounded. For example: take of oxymuriate of mercury, 1 lb.; purified quicksilver, 9 oz.; rub them together until the metallic globules disappear, then take out the sublimed mass and reduce it to powder, and sublime it in the same manner twice more successively. Lastly, bring it into a state of very fine powder, by the same process which has been directed for the preparation of chalk. This preparation of mercury is called *calomel*, and, although composed of *corrosive sublimate* and quicksilver, it is one of the most useful and mildest compounds of mercury ever used for medicinal purposes. But if it is true, as the opponents of mineral paste affirm, that every preparation containing quicksilver is poisonous or injurious to the human system, in proportion to the quantity of quicksilver it contains, then *calomel* must be the *King of Poisons*. For, in 8 parts of corrosive sublimate, there are only two of quicksilver, and in 25 parts of calomel, 13 are quicksilver; thus, according to their doctrine, very much increasing the poisonous properties of the latter.

Now, let the advocates of mercurial salivation, from mineral paste filling in the teeth, try the experiment to manufacture calomel, or any other preparation of quicksilver now used for medicine, from mineral paste, and

* This is true and were it not so the union of gold with Quicksilver, would make as beautiful and durable a material for filling teeth as we could desire. Although the compound metal of gold and Quicksilver, has a greater affinity for oxygen, than gold alone, yet the increased affinity of compound metal over the gold, is not sufficient to injure it for the purpose of preserving diseased teeth. But silver is not as liable to oxidize, as gold when united with Quicksilver, therefore it makes a better material (when so united) for filling teeth.

When a small quantity of gold or silver is added to Quicksilver,—the Quicksilver remains in a fluid state, and if, when in this condition, it is “agitated in contact with air,” it acquires an increased facility of entering into union with oxygen—but when the proportion of gold or silver is sufficiently great to form with the Quicksilver, a hard and firm metal,—it cannot be made to unite with oxygen by “agitation in contact with the air,” but, it requires other chemical agents to form the union.—Ed.

† Upon this subject the student may consult Gay-Lussac and Thenard (*Recherches Phys. Chim.* vol. i.) and Berzelius (*Lehrbuch* i.)

* Common salt.

if they succeed, we will yield the point, that mineral paste may salivate.

But, if calomel cannot be manufactured out of the mouth, by any chemical process, from mineral paste, does it not show great ignorance of the immutable laws of matter, and the uniformity of the changes produced by their chemical union, in those who pretend that mineral paste will salivate. If the law of the chemical union of matter was so uncertain, that calomel might be manufactured out of one substance to-day and out of another on the morrow,* would there be any certainty of the same results following the same mixtures of materials at different times. Again, if the law of affinity and chemical union of matter was subject to such changes, where would be the safety in the manufacture of any of the compound medicines; for, under such circumstances, the chemist might prepare and mix his materials for carbonate of magnesia, a mild and safe medicinal agent, and oxymuriate of mercury be the article produced, one of the most poisonous drugs. But thanks be to the great universal Law-giver, that the law of affinity and the chemical union of matter is not under the control of the advocates of mercurial salivation, from mineral paste filling in the teeth, for, in such hands, uncertainty and confusion would reign over all things.

To the immutability of the law of affinity, and the chemical union of matter, are we indebted for the beauty and harmony of the universe, and to this law are we also indebted for the improvements and perfection of the fine arts. The painter could never finish a picture if this law was subject to change; for a mixture of materials, producing flesh-color to-day, might, when united, on the morrow be blue.

We have said that the law of affinity for

ever protects the quicksilver from any injurious consequences, either upon the teeth or constitution; for it is self-evident, that before the quicksilver can be extracted from the chemical combination with the other metals which form the mineral paste, it must either be first dissolved in a strong acid, or a degree of heat applied that would destroy the tooth, or the application to its surface of another metal which has a stronger affinity to the quicksilver than the metals already united with it. The two first cannot take place in the mouth, and the third cannot be found.

[To be Continued.]

SALIVATION PRODUCED BY GOLD PLATES.

A sensible paper in the New York Dental Recorder, on the salivation that is produced by wearing gold plates for sustaining artificial teeth, is worthy of extensive circulation. That an effect of this kind is induced in some persons, is beyond question, and the state of health has been seriously affected, without the cause being understood or even suspected. "The salivation produced by gold mountings for artificial teeth, is not mercurial, but is what we call galvanic salivation. This galvanic influence is undoubtedly produced by the action of a vitiated saliva upon the gold plate and solder which compose the mountings." Within our own circle of acquaintance we know of a case where the salivation has at times been a serious inconvenience, accompanied by nausea, and, not unfrequently, active vomitation. The individual frequently witnesses vivid flashes of light at the breakfast table, if the steel knife blade or a steel fork happens to strike against the new teeth. Dentists must look carefully into this matter, since it can be obviated very readily, by simply covering the seams of solder with gold, so that the saliva cannot come in contact with the inferior metal.

The Dental Recorder is a scientific, unpretending, yet deserving journal, edited by J. S. Ware, M.D., of the city of New-York. —*Boston Med. and Surg. Journal.*

* "It is a fact, moreover, that the mildest salt of mercury, which could be formed under any circumstance, is calomel, and inasmuch as the principal acids, prevailing both in the fluids of the stomach and mouth, are muriatic, with a small quantity of acetic, the presumption is, that corrosive sublimate would be *quite as likely* to be the result as calomel."—*Westcott's Report on Mineral Paste*, p. 183 in No. 3, Vol. iv, of the *American Journal of Dental Science*.

AMBLER'S JOURNAL FOR DENTAL OPERATIONS.—1847.

We have been very politely furnished with a copy of the above work, and its author deserves much credit for furnishing the profession with so useful and convenient a day-book, ledger, and journal combined. It is printed on good paper, and executed with great neatness. No Dentist should be without a copy, and it is his duty to make it what its author intended it to be—a Journal of all important cases, and their treatment connected with Dental science. The want of such a record has been a serious drawback to the improvement of the Dental profession.

THE MICROSCOPE.

After being partially neglected for half a century, the physiologists and anatomists of Europe have again availed themselves of this beautiful instrument, particularly for the purpose of unravelling the minute structure of the animal tissues, and with results the most extraordinary and unlooked-for imaginable. Why do not our American investigators into the curious and mysterious in organization, also more generally resort to the microscope, since no researches are more exciting than the developments under the assistance of this beautiful contrivance for enlarging the visual powers. The French, particularly, of late, have turned their attention in this direction, but there is room enough, and matter in abundance to give occupation to whole scores of philosophers in this field of observation.

Dr. Carpenter states that he was applied to by Mr. Darwin, an eminent naturalist, to ascertain, in relation to two extensive strata in North America, whether they were identical. Both contained comminuted shell, and he entertained an opinion that they were the same; but when examined by the microscope, he was at once enabled to decide that the one formation was in reality a subdivision of the other, and that the two, as far as material was concerned, were truly the same.

On another occasion, Dr. Falconer was much at a loss with respect to the character of some small bones found near the remains

of the bones of a twenty-foot tortoise, recovered in the Sevélie hills. He desired to have them inspected under the microscope, with relation to where they were from. Mr. Queckett, a sub-curator of the College of Surgeons, decided that they belonged to some reptile, and probably the turtle order.

The minute structure of a tooth, however small the fragment, is the exact and unerring type of the dental apparatus in the family of animals to which it belongs; and therefore, whenever another fragment, however small, presents the same characteristic items of anatomical structure, the habits of the individual to which it appertains, are quickly ascertained. By this same contrivance, the lost animals of past geological periods may be studied in fragments, and thus exhibit the triumphs of inductive science.

But the living may be benefitted by microscopic researches into the condition of diseased glands, the actual condition of tumours, the lesions of vessels, the composition of excretions, &c., far beyond anything yet accomplished. So vast is the field for exploration, so few the laborers, that an opportunity for distinction awaits those who give to the subject that devotion which is necessary for discovery. We urge it upon the younger members of the profession, to fill up all their not otherwise occupied hours, in physiological and anatomical efforts with the microscope. Nature is so rich in resources, and man has ascertained so little, that the future is destined to be full of brilliant discoveries.—*Med. & Surg Jour.*

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to Asahel Jones's General Agent, 263 Broadway.

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NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol 1.

MARCH 1, 1847.

No. 7.

[To the Editor of the DENTAL RECORDER.]

DEAR SIR: Will you be so kind as to allow me the privilege of publishing the following paper, in reply to the Protest of the American Society of Dental Surgeons, in your very liberal and deservedly popular Journal.

J. L.

THE RIGHTS OF MINORITIES:

Being a Reply to the protests of the American Society of Dental Surgeons,

RELATIVE TO THE USE OF AMALGAMS IN
DENTAL SURGERY.

By JOHN LOVEJOY, D. D. S.

A circular has emanated from the American Society of Dental Surgeons, dated December 15th, 1846, containing certain resolutions passed at its annual meeting, which pronounces "the use of all amalgams malpractice," and requires every member of the Society to sign a certain protest, declaring his firm conviction that it is "unfit for plugging teeth or fangs," and pledging himself, under no circumstances, to make use of it in practice; (it further pronounces every one who shall refuse to sign this stringent test-act, within a certain time, as unworthy to be a member of the American Society of Dental Surgeons, and threatens summary expulsion from its connection.)*

This extraordinary procedure appears as the result of the mature deliberation of the majority of a society, the first article of whose constitution declares its "objects to

be, to promote union and harmony among all respectable and well-informed Dental Surgeons." In accordance with the Society's request, that such of its members as are unwilling to sign its protest should give their reasons for declining, the writer of these pages would respectfully submit his views to the consideration of the profession in this brief paper.

So many objections to these transactions occur spontaneously, that it is positively difficult to decide which of them it is best to present for the consideration of the reader.

Anxious to preserve the respectful tone of language which he considers due to his own character, as well as to the Society of Dental Surgeons, towards whom he desires to cherish sentiments of regard and deference, unaffected and deep, he feels himself not a little restrained in the use of arguments which rise at once palpable to reflection, and the force of which it is impossible to resist.

The bare idea of a test-act is repulsive to every mind, imbued with the feeling of independence which is the birthright of every American. The rights of minorities should be jealously defended; while those of majorities are in no danger, where the ballot determines results. But for a majority, under the threat of pains and penalties, to decree what a minority shall do, unconvinced, is generally considered an act of oppression—to decide what they shall *think*, is an undoubted advance in the progress of tyranny—while to demand of them their signatures to a certificate, declaring their conviction, on a given subject of dispute, to

* True the second and third resolutions of the first protest were repealed, formally, but their tyrannical spirit retained, as will appear by the fifth and eighth resolutions of the second protest.

be just exactly what the majority knows it is not, is perhaps the most elaborate exercise of inquisitorial despotism possible, and one which, we confess we have yet to learn, has ever disgraced the darkest age of ecclesiastical persecution or tyrannical oppression.

It is an act of power, aimed not at the control of the person, but directed at the freedom of the conscience and the mind. In this act of the majority of the Society of Dental Surgeons, that body is, (unconsciously no doubt, but really,) made to offer the greatest possible insult to the intelligence of its members, in requiring them not to exercise their own free thoughts and sound judgment on the claims of a matter which properly belongs to the individuals respectively, and not to the Society collectively.

It is found requiring of its members a base conformity to other men's opinions, on points in which it is impossible for them so to conform, without surrendering all manliness of character, all uprightness of principle, all independence of action. In vain is it urged, that there are certain objections to the practice in question—that may or may not be. It is sufficient for our present purpose to show, that the Society has taken the wrong course to settle the question, it being a matter of opinion on which the members differ. These differences of opinion existed at the time of the formation of the constitution. If one point of difference is to be settled by a vote, under penalty of expulsion, what is to prevent the same summary process, on every other matter in which an honest difference of opinion may exist.

The sixth article of the constitution requires, besides some other formalities, a majority of three-fourths of the members present, to expel a member; but no provision is to be found to expel members by the wholesale process, which seems more recently to have been contemplated.

It is hence plainly unconstitutional, to attempt the expulsion of a large and conscientious minority, by first passing an *ex post facto* law, declaring it necessary for membership to sign any paper whatever, and then attempting to abrogate their right, under the constitution, of that very member-

ship itself, by a mere majority vote; it may even be a question, whether such a proceeding does not amount to a libel on the part of the majority. It is vain to urge in reply, their opinion as unfavorable to the practice—that opinion is sufficiently opposed by the opinion of the minority; it is only a matter of opinion.

It may be asked, with ~~some~~ point too, which is the best opinion—that of those who have never tried the practice, or of those who have subjected it to their experience and observation?

Without entering into its merits at all, but confining ourselves to the testimony alone, it is not to be denied that all *positive* evidence is in its favor. Those who have never used it, can in the nature of the case give their *opinion* only; but the testimony of those who have actually employed it, being that of a large majority of the practitioners in the city of New York, is in its favor. Dr. Baker, in an article in the American Journal and Library of Dental Science, No. IV, June, 1846, adduces, in addition to his own, the evidence of Dr. C. S. Brewster, of Paris, at present the most eminent Dentist of the Old World, "that it is used by every respectable Dentist in Europe," and "that much good * * * may be done by a judicious use of the composition." Under these circumstances, can those, who decline employing it, be found not only in opposition to it, but actually resorting to unconstitutional and high-handed methods of prejudicing the public mind against its use, and against the character and standing of those who differ from them, without incurring the risk of subjecting their motives to the suspicion of selfish and sordid ends?

Imagine the legitimate tendency of its operation, in a town where two Dentists are engaged in the laudable and honorable competition of their pursuit. Let this vote be promulgated, and let it have the authority and influence which are desired for the acts of the Society, and the opposer of the practice in question may only point to the decision, and proceed quietly to appropriate the business of his neighbour—may turn him adrift with his family, to shift for himself, and ride rough-shod over his rights

and feelings—may lay his honor in the dust, and enter into his business with the sanctioniousness and the hypocrisy of a professional Pharisee. Surely, this is a strange way of carrying out the objects set forth in the constitution, to promote union and harmony among the professors of the important art of Dental Surgery.

We would not imply for a moment, that the gentlemen who have promoted the measures referred to, have been actuated by motives so base and sordid; nor do we believe that such results as we have referred to could, in fact, be obtained. It is, on the contrary, our confidence in their integrity and honor, which induces us to urge upon their conscience and reason this very argument, and certainly the reaction of such high-handed measures would, in the end, be calculated to destroy all confidence in the decisions of the Society. A respectable body of professional men, may render themselves ridiculous indeed, by attempts to put down by power what is supported by the experience of the people. They may thus defeat the very end of their organization, and gain the contempt of the public, as men of dishonorable motives and contracted views, in case the contested practice shall, in the end, be proved to be salutary. Even if it be essentially bad, the cause of truth and professional respectability will lose nothing by a little caution and consideration. The evil results of a bad practice will bring it inevitably into contempt, and while those who resort to it will suffer from its failure, those who are opposed to it will be the ultimate gainers. But mankind will generally espouse their cause, whom they regard as persecuted; while something should be yielded to the fallacy of human judgment—to the uncertainty of human decisions. Men of the best minds have been in error. It is not, therefore, well to resort to capital punishment for mere mistakes. If the parties, advocating a particular practice, are in the wrong in respect to it, but are still honest—if their general character is good—if their motives are pure—they should certainly be tolerated even in some errors. They have, what may be called a civil right, to be in the wrong to some extent, in the honest attempt

to improve their science. It is necessary that their own minds should be satisfied—while, to drive men by unjust severities, against their convictions, is a measure sure to recoil, on those who attempt such exercise of tyranny, with contempt and defeat.

The great John Hunter, who was remarkable for his tenderness, in the practice of midwifery, towards his patients, once conceived that the removal of the placenta, after child-birth, was quite unnecessary and a measure of needless severity, and conformed his practice to this view. He inculcated his doctrine among his fellow-practitioners. His influence was as great as that of any man who ever exercised the healing art, and he could have carried with him a majority of the medical men of London, in a vote in reference to that subject, in a similar way to that we are now discussing in regard to our own art. Suppose he had procured the passage of a law, requiring all men in London, engaged in the practice of midwifery, to discontinue the removal of the placenta after delivery, on pain of expulsion from the medical faculty—would not such a measure have been perfectly parallel to that now under discussion? Who cannot see the high-handed nature of such a proceeding. One year's experience of Mr. Hunter, sufficed to convince him of his own error in the practice to which he was so enthusiastically and honestly devoted. That year witnessed his loss, of four noble ladies in the metropolis of England, by hemorrhage after delivery, the consequence of this practice; he changed his views and his plan of action, and relinquished altogether his favorite notion.

Mr. Hunter was in great error in this matter; but it would have been unjust to have censured him for quackery. At most, the medical society might have proceeded to express an *opinion* unfavorable to the practice. It would have been as illiberal, as it would have been unwise, to have pronounced the censure of the profession upon him for his course, and to have required him, before he was convinced, to put his signature to a certificate denying his opinions, and denouncing them, at the time he believed them too. Yet such a course would

have been analogous to that which we are considering. Error must be opposed by argument and truth, it cannot be successfully combatted by mere authority and violence; while truth is proverbial for its onward growth, under obloquy and persecution.

With these views, we are done with what may be called the moral aspect of the question of amalgams, now before the Dentists' Society. We will now proceed, in a very brief way, to say what we regard as some of the most important advantages of the practice itself. There are certain cases of caries, in which gold cannot be successfully used in filling teeth, because the operator is not applied to in time; the result is, that a useful, and sometimes a most valuable tooth, must be sacrificed in practice, unless we resort to the amalgam. Yet, with its use, the tooth may be preserved, and remain as useful as if it had never been attacked with caries.

Another admirable employment of this material is, in its application to teeth which have been worn and decayed by springs, to which gold plates are attached. The furrows formed by their constant wear and decay may be filled up with the amalgam, and the teeth will thus be permanently saved, a result to be obtained in such cases in no other way yet known to the Dentist.

These advantages alone are sufficiently great, to constitute a sound defence of the expedient of using the amalgam, provided they are not counterbalanced by objections which outweigh them. To consider, then, with great brevity, the objections usually urged, and to answer them, will constitute the remainder of our remarks.

First, then, it is said—as bodies in chemical union, passing from a fluid to a solid state, always contract, that, necessarily, there must be a space or interval between the substance employed and the tooth, which renders failure certain. This objection seems plausible, and is fortified by the authority of a chemical law; but, whether owing to the manipulation of the operator or some other cause, it is found by experience an objection purely theoretical and imaginary, and not sustained in fact by experience. It is, therefore, a false argument.

Again, the use of mercury is said to injure the other teeth and destroy the health. Whatever truth there may be in this objection when used in reference to the improper and indiscriminate employment of the amalgam, it is found, like the preceding one, to be merely suppositious and unreal. Experience yields it no sanction whatever, when used with discretion and judgment; so that, in conclusion, it is only necessary for the writer to declare the result of a very considerable experience with the article, that it is not justly liable to these objections, and that, in his honest and well-considered opinion, it is a measure by which great good is afforded the patient, and that time will establish its claims to the just estimation of an invaluable resource, and, if not abused, it will be ultimately regarded by all practitioners as essential, in its place, to the perfect discharge of the duties of every scientific operator of the Dental art.

Confidently appealing to the "sober second thoughts" of the Society, the writer begs leave respectfully to submit his sentiments on this important subject, with the suggestion, that its final settlement be postponed for the present, until time and reflection shall have matured and established the truth; and he would humbly suggest, that the action of the Society be confined to a simple vote, expressive of its views on the subject, so that the members of its learned body may be left to their own free and untrammelled, but conscientious and cautious decision, in their individual capacity, and not subjected to the collective and authoritative commands of a mere majority of their honorable body.

JOHN LOVEJOY, D. D. S.

638 Broadway, N. Y.

MALPRACTICE IN THE TREATMENT OF THE PRIMARY TEETH BY THE DENTAL AND MEDICAL PROFESSIONS.

We know of no department of Dental science that is so much abused as the primary, or child's; and yet there is not one which is of more importance, not only as re-

guards the future health and permanency and durability of the adult teeth, but the health and vigor of the constitution.

It certainly does appear strange—very strange—that men, who boast of their “30 years’ unparalleled success in the Dental profession,” should have so far overlooked the importance of preserving the primary teeth, as to make wholesale business in extracting them, several years before the God of Nature intended they should be removed, thus depriving the child of the only means, or apparatus, to masticate its food with, and which was made for that express purpose.

Why is it that so little importance is placed upon the first set of teeth, that no effort is made to preserve them? The physician will talk very gravely about the value of plain and wholesome diet, and at the same time will recommend the removal of the only means his patient has to prepare its food for easy digestion. Truly may the little sufferer ask, in a pathetic tone, “is there no balm in Gilead, or physician there.” And this wholesale practice of extracting is not confined to the primary—but the six year old teeth, which are the first *adult double* ones which are cut, and are never replaced by others, if removed, fall victims to this bold species of malpractice.

It is not the only duty of the Dental Surgeon, or the surgeon, to remove every member of the system that is attacked by disease—but rather to heal and restore it to usefulness; but how seldom do we see any attempt made by the Dental profession to preserve the primary teeth (when diseased), until Nature may cast them off, having no further use for them, because she has produced others to take their places; but, extract them is the stereotyped prescription, from the matured years of the medical gentleman down to the ignorant old woman.

A little reflection on this subject, will satisfy any one that the charge of malpractice does not fall on the Dental profession alone—the medical are greatly at fault in the counsels they give to the parents, in reference to the extracting of primary teeth. We do not now recollect of but few instances, where the family physician has recommended the filling of the first set of teeth,

when disease has attacked them at an early period. But, on the other hand, we are often called upon to extract the double teeth of children, at the early age of four and five, in compliance with the advice of the attending physician of the family. And like cases frequently occur, in reference to the extracting of the six year old double teeth—and when they do, we find it requires much talking to convince the parents, that if they are extracted they will not be replaced by others.

If physicians would take more pains to inform themselves on the subject of the shedding of the primary, and the reproduction of the adult teeth, then would they be more competent to impart wise counsels to their little patients—thereby save a large amount of suffering—for which they would ever receive the sincere gratitude of both parents and child.

NEURALGIA FACIALIS,

Of an intermittent type, produced by the diseased condition of the Teeth.

Miss —, aged 19, was attacked about the first of June, 1846, with a severe paroxysm of pain in the head, accompanied with shooting and lacerating pain in the left side of the face and temples; and this state of things would continue for several hours, when it would gradually pass off. But its return was certain at the hour of 4, with increased energy. Many medicines were administered, yet the paroxysm continued and came on at the same hour, increasing in severity at every recurrence, until delirium followed, and continued during the paroxysm. The medicines, although judiciously selected and faithfully administered by her attending physician, had no control over the disease.

After the patient had been thus suffering for several weeks, we were requested to see the young lady with her physician, and, after a minute examination of her symptoms, we believed that the exciting cause of the paroxysm and suffering was the diseased condition of her teeth, and we communicated to her physician and friends the

result of our examination. But the reply of the patient and her friends was, that we must be mistaken, for she had not had any toothache for a long time—and that she had taken great care of them—and her Dentist had been faithful in his surgical operations—but this reply did not change our opinion, although, at this time, we had not examined her teeth, and were told that they did not trouble her—for it was based upon other considerations than present pain in the teeth. We have been familiar with like cases for many years, and believed that, in the one before us, we were not mistaken in our diagnosis; we therefore suggested the propriety of having her mouth examined, and, if any teeth or their roots were found to be in such condition that they might possibly be the exciting cause of her great suffering, to remove them at once. The examination she readily consented to; but the extraction of several ulcerated fangs and teeth that were found, she protested against, as well as her friends, on the ground that they did not ache, therefore could not be the cause of so serious a disease. Fears were also entertained by her friends, that the operation of extracting would increase her sufferings, rather than relieve them; but, after the lapse of several days, and finding no relief, she consented to have the teeth removed.

We extracted, at eleven o'clock in the morning, several teeth which we believed produced the peculiar train of symptoms, and her extreme sufferings; after which we applied nervine* remedies into the cavities of several teeth which were much decayed. Although the patient was much excited during the operation, yet she had the pleasure of passing the day and night without the return of the paroxysm—and it never returned. The prompt and permanent relief afforded by the removal of the teeth, and the application of the medicine to the remaining diseased teeth, could not be mistaken; and all who witnessed the result, were satisfied that the diseased teeth were

the exciting cause. We do not wish to be understood that the diseased condition of the teeth, independent of other causes, produced the intermittent type of the disease; but, the system being predisposed to an intermittent fever, the irritation produced on the nervous system by the teeth, developed itself in that form. This case is not a solitary one—and we would suggest the propriety of physicians turning their attention more to the teeth, and particularly so when they encounter Neuralgia located about the head and face, which will not yield to medicinal agents.

This case shows in a strong light the vacuum, if we may be permitted to use the expression, between the Medical and Dental professions.

The medical practitioner, depending upon the Dental to take charge of and to treat diseased teeth, therefore believes it unnecessary to qualify himself in Dental science, and, unless his patient complains of toothache, his attention is not called to them—nor does he believe it necessary, when neuralgia facialis, unaccompanied with pain in the teeth, attacks his patient, to ask the counsel of the Dental surgeon, for the simple reason—that he looks upon the Dental profession as merely mechanical, and not at all connected with the science of Medicine and the healing art. Hence, between the two professions, the patient often passes months, and even years, through sufferings which are worse than so many deaths, and no one to unfold and relieve, what is supposed to be, a *mysterious* and incurable disease.

Too many of the Dental practitioners, on the other hand, consider their highest qualifications accomplished and their usefulness to end, when they can fill a cavity in a tooth with *gold*, and put a mirror finish on its surface—or engraft an artificial tooth on the fang—or furnish their patients with a full set of artificials, mounted on gold plate. Not that we undervalue the mechanical branch of our profession, for we believe it to be highly useful, and an indispensable qualification in all its perfection; but to say that a gentleman is competent to successfully treat *diseased organs*, with only a mechani-

* Narcotine and Creosote—1-20 of a drop of which was put into each cavity.

cal knowledge of the Dental profession, is too absurd to require an argument to refute it.

The public may with great propriety ask, how can the vacuum between the two professions be filled? We answer in the language of Dr. Allen—"let a professor of Dental science be appointed in every medical college in the land—then, and not until then, will the two professions be prepared to understand, and to successfully treat, a class of neuralgic diseases, abscesses and tumors, which have heretofore been looked upon as beyond their skill to remedy."

[To the Editor of the DENTAL RECORDER.]

DEAR SIR,

Allow me, through the medium of your interesting Journal, briefly to call the attention of the manufacturers of artificial teeth to one very important point in making *Pivot Teeth*. Who, among the Dental profession, that has had any considerable experience, has not been frequently annoyed and perplexed by the return of his patient, exhibiting in his hand, instead of his mouth, the teeth which had been carefully and skilfully inserted but a few days before? Such an accident would not have been possible, except from violence, were it not for the imperfection in the artificial crown. The manufacturer, the patient, and the Dentist, we doubt not, are all anxious to learn the cause, which is simple and may be easily obviated, by bestowing a little more care on the construction of the pivot hole. The difficulty is simply this: the orifice or mouth of the pivot hole, being a trifle larger than the other extremity, compels us to make the pivot tapering or tap-shaped, and as it expands, from the gradual absorption of moisture, when placed in the mouth, I venture to say that ninety-nine such cases out of one hundred will crowd or slide the crown from the pivot.

As this difficulty may be so easily overcome, I trust the manufacturers will regard it as of sufficient importance to be attended to. I have not specified whose teeth I have had the most trouble with in this respect,

neither do I deem it necessary; let him, or them, learn a lesson from this, and do better in future. It is on account of its tendency to destroy the confidence of our patients in this operation, and not because I am given to fault finding or mind the loss of a tooth occasionally, that I have called attention to this subject.

Yours &c.,

J. W. T. RICE.

Cazenovia, Dec. 9, 1846.

ETHEREAL VAPOR.

SIR,—

I have read with much interest the report signed by twelve of the regular dentists of our city, on the subject of the use of vapor of ether to prevent the consciousness of pain in surgical and dentistical operations. This report was presented when the public were earnestly seeking for information on the subject, and at a time, as it seems to me, when the evils which have occurred, and the ignorant use or abuse of the discovery to which it relates, rendered a fair exposition of the matter highly desirable and necessary. It awards the discovery to Dr. C. T. Jackson, sets forth its promising advantages in general surgery, but shows that its *common or frequent use* in dentistry will be unwarrantable on account of the deleterious effects which have already followed its application; such as in the cases there detailed. The first case—"a young lady—much agitated before taking the gas at Mr. Morton's; pulse 130—after taking it, fell to 70; eyes injected; frothing at mouth; general appearance like one going into a state of epilepsy. For some time much confused—several hours after, said that when the tooth was coming out, felt as if she was having a horrid dream." Second case:—"a young man, appeared to have much suffering, throwing his body almost from the chair. Pulse rose to 150 while inhaling; eyes injected; respiration laboring." Third case:—"Miss D. took the ether and had a tooth out without pain. Left Mr. M.'s room about 12 o'clock; at 1 o'clock, after she got home, was taken delirious. This lasted all night; next morning raised blood from lungs—about a pint; was suffering in conse-

quence of the operation three days after." Fourth case:—"Miss R. was strangely excited; but had a tooth out and felt no pain. Was taken delirious soon after she left Mr. M.'s room, in a shop, had to be carried home, and remained in that state for three days, in great restlessness, and friends afraid to leave her alone."

These cases I do not quote exactly and fully, but only the prominent symptoms. I daily hear of others equally serious. A young man, clerk in a store in Hanover-street, returned to the store a few days since, after being absent some two or three hours, rushed violently in from the street and across the store, then out again and returning, till he at last fell senseless on the floor. When roused sufficiently, he said he had taken the ether at Mr. M.'s, and had a tooth out; did not know where he had been since, nor how he had reached the store, having been, as it appears, perfectly delirious. Was confined to the house all the day following, and the ill effects lasted several days. A young woman, aged 18 years, took the ether in Salem, from a dentist who bought the *patented privilege*. She had a tooth extracted without pain, and was delighted with the operation. A week after, repeated the experiment at the same place; inhaled the vapor, but when the operation was commenced, consciousness was so restored that she had great pain from the drawing of the tooth; her head immediately felt confused and painful. She did not know how or when she returned home—whether alone or with some one to guide. She was much agitated, weeping and sighing, and did not recover from the effects in all the next day. Similar cases are daily coming to my knowledge, and the hazard attending the inhalation of ethereal vapor is such that no one should be exposed to it without being warned of the danger of incurring a greater evil in the attempt to avoid a less.

This report goes on to say—"We feel, therefore, that this whole matter, be it of greater or less value in surgical practice, should be in the hands of those only who have testimonials from some one of our medical colleges, that they are worthy of being entrusted, as medical attendants, with

the health and life of their fellow-beings." It suggests, also, "that as is done in similar cases by learned societies in Europe, the whole subject be given to a competent committee, appointed by the Massachusetts Medical Society or the Boston Association of Physicians and Surgeons, to investigate and report thereon. It is moreover stated in the report, on the authority of competent legal judges, that there is nothing patentable in the whole affair. The important discovery—the new thought—of Dr. Jackson, was that of bringing the well-known medical effects of vapor of ether and the surgeon's knife into close combination for the prevention of human suffering. A valuable thought it may prove to be indeed, which the report seems duly to encourage and appreciate.

This is but a passing glance at the most prominent points in the report. Those who would know more of its details, are referred to the Boston Daily Advertiser of Saturday, the 12th inst., the Courier of the 16th inst., and the other papers of a later date. The subject is one on which the people should be correctly informed; for however much of good shall attend the use of the ether in important and painful cases of surgery, it is fraught with too much of danger to be given on all trivial occasions. The well-informed and honest dentist will use it but seldom. The whole report deserves to be kept before the public in some of our journals, till all whom it concerns shall have opportunity to read it.

A PHYSICIAN.

Dec. 31, 1846.

Boston Med. and Surg. Journal.

LETHEON IN NEW YORK.

Dr. Alexander E. Hosack has twice permitted the experiment of administering the ethereal vapor by Morton's apparatus, as preliminary to surgical operations, during the last week. The first case was an amputation of the thigh, the patient being rendered entirely insensible and unconscious during the removal of the limb, but recovering his sensibility during the ligation of the arteries, and before the dressing of the stump, so as to require a repetition of the inhalation, to which he readily assented. Dr. Hosack's other case was the removal of a scirrhus testis which had acquired a formida-

ble size. In this instance the respiration of the letheon produced obvious narcotism, attended with a pulse of 130, dilated pupils, stertorous breathing, and a suffused countenance, red eyes, &c., with a convulsive tremor of the limbs, ending in muscular relaxation when the full effect was induced. The incisions and a part of the dissection were made without any betrayal of sensibility on the part of the patient; but, as in the other case, the consciousness returned before the operation was completed, and the man refused to inhale any more of the gas, admitting, however, that he had thus far felt no pain. Both these patients testify to the entire unconsciousness which resulted from the inhalation, while the effects lasted.

Dr. Mott has lately succeeded in the operation for fistula in ano, which required no less than five incisions in different directions, the patient being meanwhile obviously insensible to pain, and entirely unconscious that the operation had been commenced. Similarly happy results were produced by the letheon in a patient from whom a carcinomatous mamma was removed by the same gentleman, so that the possibility of annihilating both consciousness and sensibility during painful operations by this agency is now amply proved to candid men by the experience of distinguished men here, as well as at Boston and elsewhere.

The objections to its use, however, are various, and some of them being urged with much vehemence and not a little plausibility, will doubtless restrict somewhat its usefulness.

1st, It is considered unprofessional, among scientific men, to employ any remedial agency, of the precise nature of which they are ignorant. The secrecy, therefore, alleged by its proprietor, is deemed an ample reason for prescribing it.

To this objection it is replied, that though announced as a secret remedy by Mr. Morton, it is only the mode of preparation which is secret, the agent being known to be sulphuric ether, and this alone and uncompound; its concentration and elimination from its free acid or other impurities, being effected by a peculiar process.

2nd, It is regarded equally unprofessional to employ any patented remedies; and those surgeons, who have allowed this patent agent to be employed as an experiment to test its usefulness, have been reprobated and denounced by some of their compeers.

To this it has been replied, that the patent

only covers whatever is peculiar in the preparation of the ether for the purpose so as to secure uniformity in its strength, together with the apparatus for inhalation, which is both neat and ingenious in its construction. While, as a caveat to both these objections, it is urged, that it is not more unprofessional than to employ Henry's calcined magnesia, McMunn's elixir of opium, or even James's powder, &c.

Still another objection has been made, which, if well founded, would of itself be fatal to the adoption of the letheon in capital operations. It is predicted that the suspension of sensibility to pain, is purchased at the sacrifice of the recuperative energies of the system, so that the healing of the wounds after operations will be hindered, if not prevented, by the use of this new agency. But no physiological or pathological law, to be found in any theory, can gainsay the facts of experience, furnished by the united testimony of the leading surgeons of the country, as in Boston, Salem, New York and elsewhere, by which the contrary has been testified, union by the first intention having supervened in several of these cases with unusual promptness, and no untoward result having followed in any one of them.

The most formidable objection to the use of this new agent, and the only one to which no answer has yet been given, applies with great force against its indiscriminate application, and equally against its employment at all, except in very painful operations, the severity of which may justify the positive and direct interference with the integrity of so important and delicate a structure as the brain, as the letheon obviously produces. That it ought not to be employed by dentists as preliminary to their minor operations, there should be but one opinion among conscientious men; and there will be little diversity of sentiment among such men, after they shall have used it or seen it used for such purposes. Indeed there can be little doubt that its indiscriminate or very frequent use, upon trivial occasions will be followed by mischiefs which will be deplored by the operators, as well as their victims, unless very great caution be observed in the selection of cases, and in the extent to which its inhalation is permitted.

The observations made here upon the few cases of its employment, would suggest the following rules for safely using it.

1st, It should never be inhaled by children or by aged persons.

2nd, Individuals of plethoric habit, or much

nervous excitability, should be warned against its use.

3rd, Persons predisposed to paralysis, convulsions, or other nervous diseases, should not be allowed to inhale it.

4th, It will be a hazardous experiment to use it in any patient while vascular congestions exist in any vital organ, but especially if in the brain.

5th, No one should inhale it who is not assured of possessing sound lungs, and general good health, for in such only can it be employed safely.

6th, It should never be advised as preliminary to tooth-drawing, or other brief operations of minor character, for the reason that the pain of these, however acute, had better be endured, than to incur the risk, even momentarily, of engorging the vessels of the brain by this potent agent.

7th, It is only in capital operations, involving the necessity of extensive wounds, and painful incisions through sensitive textures, that this agency can be recommended, and even in these for impunity from subsequent mischiefs, a judicious discrimination of temperaments and predispositions will be advisable.

Under such limitations and restrictions only can the letheon be regarded as a valuable or useful discovery.—*Boston Med. and Surg. Journal.*

FORMATION OF A SOCIETY FOR DENTAL REFORM.

DEAR SIR,

In view of the present low standard of education and *principle*, required for the practice of Dentistry, in the city of Boston and vicinity, should there not be some steps taken by those members of the profession, whose natural and acquired ability renders them proof against the devices resorted to by the many parasitic impostors whose signs glare in our most frequented streets to dazzle a public more ready to receive and promulgate marvellous doctrines, than those fraught with reason and common sense, to raise the standard of requirements upon an equality with the responsibilities incurred in the practice of a profession so intimately connected with the medical? Holding, as it does, an intimate influence over the health and comfort of its patrons, should

they not esteem it their duty to devise such measures as may tend to the advancement of the art, and the suppression of all dishonorable efforts made to promote private interest at the expense of public welfare, and the cultivation of union and friendly feeling among the legitimate members of the profession? And as an association with the above purpose in view seems to offer the only true course for the attainment of results so desirable, we can see no just cause why those who have acted as pioneers in the path of duty, and the many others who have improved and profited by their examples, should remain dormant, while quackery stalks boldly forth to sap the vitality of the profession by impairing the confidence of the public in reference to the utility of Dental operations. All acquainted with the present state of the profession, must acknowledge that the major part of the operations performed for the preservation of the teeth serve only as an aid to the natural process of decay; and from the existing regulations for obtaining a Dental education the *unenlightened* have no security against imposture. But by the aid of those members of the profession who have obtained a reputation as men of science, a reformation could be brought about, and a guarantee given to the public, by operators under the certificate of a society formed by them, which would serve as a password of safety.

Yours,

Boston, Feb. 5, 1847.

S. E. R.

Boston Med. and Surg. Jour.

REPORT OF THE PROCEEDINGS OF THE PENNSYLVANIA SOCIETY OF DENTAL SURGEONS.

Philadelphia, Feb. 25, 1847.

A stated meeting of the Society was held on Tuesday evening, Feb. 16th, at the Museum-building: President, Dr. G. Planton in the chair, and Mr. C. C. Williams, Secretary—after the minutes of the previous meeting were read, there were some verbal reports made, which, not being of general interest, we do not report.

Mr. S. S. White now read an essay on the "History and present condition of

Dental Surgery," a brief report of which we give. Of its progress, he said :—

"All the arts and sciences—the inventions of man prompted by inherent tastes, or, imperative wants—display the same law of progression. Ill-formed and far from truth in their origin, they progress toward perfection with different degrees of rapidity, some being quickly perfected while others continue to strive with the obstacles that obstruct their progress, and only, after the lapse of centuries, arrive at that perfection and completeness to which they are capable of being brought. A single glance at the history of our science, will be sufficient to convince us that its advancement has been of this last character." Again he says, "We have still to regret that Dental Surgery is far from being a perfect science; we must therefore be guarded in the pursuit of Dental knowledge, that we do not repose implicit confidence in the opinions and principles of others, or, even the facts we may learn; perhaps it would be better to regard everything as unsettled, that we may feel more deeply the necessity of investigation." "We must remember that Dental Surgery and its connections, is not a mere art,—a collection of principles handed down from preceptor to student, requiring but a limited degree of intelligence to put into successful operation, but we must devote ourselves to the acquisition and cultivation of a science composed of facts developed by tedious investigation, and principles determined by analysis and logical deductions and which can be applied only under the guidance of a well-informed and disciplined judgement." And again: "Another cause of its progressing so slowly toward the completeness of a science, may be the want of method in which Dental Surgery has been and is now too often taught. The observer of a few facts,—the Dentist of a few patients, assuming the importance of a professor (!) soon grows weary of laborious study and investigation, and finds it much more easy to guess at conclusions; and in this way does it happen that more *discoveries* are made in one month than can be proved false in twelve."

"Why do not those who are honest in their practice improve more rapidly, and

why is it that their theories are not more complete and the science more perfect? Is it not traceable to an unworthy spirit of professional envy and distrust? Thus we see each one striving, manfully it may be, to collect and prove facts, settle principles and establish theories, but standing alone, and observing in a comparatively small circle, each one regarding his observations and discoveries as secrets upon the preservation of which depends his success, and recording nothing dies, leaving the science scarcely the better for his having studied it."

By unanimous vote, a copy of the essay was requested for the use of the society.

These brief extracts we give, because of their containing, as we think, some important truths which may be read with benefit.

After the Essay, on motion of Dr. J. D. White, a committee was appointed to make inquiries, experiments, &c., in relation to Dr. Morton's Letheon, and report the same with their views at the next meeting. A committee was also appointed to inquire into the *science* (!) of Pathetism as practised by Mr. Sunderland—in which persons are thrown into a state of trance, and their teeth extracted without pain or their consciousness—and report at the next meeting.

Oral communications were now offered, some desultory remarks made, and, after considerable discussion on various topics, the Society adjourned.

This meeting was better attended than the previous one, and much interest was manifested. We trust it is now placed beyond a doubt, that enough liberality and good feeling exists in the profession to sustain State Societies all over the country: we hope it may be so, as it would do more to elevate and establish the profession in the opinion of the community than any other plan we know of.

M.

HYDROPATHY: APOPLEXY PRODUCED BY COLD FOOT BATHS.

A plethoric female about sixty years of age, was advised to try cold foot-baths for a rheumatic attack, from which she was suffering in her right leg. After the first two baths, she felt herself very comfortable, but

when for the third time she put her feet into cold water she became suddenly dizzy, and in a few minutes was seized with an attack of apoplexy. She fell down insensible, and became paralysed on the left side of her body. The face was red and swollen, the head hot, the eyes suffused, the pulse slow, full, and somewhat hard. Venesection was performed, leeches and cold lotions were applied to the head, with mustard plasters to the nape of the neck and the lower extremities. Under this treatment the patient soon recovered her consciousness, but there was still a partial paralysis of one side of the body, which slowly disappeared under medical treatment only after several weeks.

A review of the "reflections of M. P. A. Grandhomme, on the methods at present made use of, in regulating the teeth, followed by a description of a new process"—vide 3d and 4th Numbers.

BY E. BAKER, D. D. S.

(Continued from p. 69.)

It is human nature and it is reasonable to conclude, that when we offer any thing which we believe to be an improvement on any former practice and that especially when we draw comparisons between *that* practice and the one we wish to introduce, we are more apt to enlarge on the *evils* than on the advantages and benefits of the one which comes in competition with our own. There is no doubt but all those bad consequence *may* arise from the injudicious use of ligatures, but that they *necessarily* follow, we very much doubt.

Instead of the fulcrum being at the *extremity* of the fang, we believe it is represented by that portion of the process near towards the gum, and this is the main part to be overcome and absorbed by pressure, and which is the principal obstacle to be overcome. The remarks he makes on the *modus operandi* and power of the ligatures appear to be correct, and are worthy of particular attention. He evidently has paid particular attention to the nature and effects of those powers. If the ligature is allowed to slip far on the neck of the tooth, "the alveolus is then converted into a kind of inclined plane, and the power, when so applied, tends to draw the tooth out of the alveolus;" but this can be prevented, by placing the ligature properly, or by using a contrivance like the one mentioned of Dr. Allen's.

As it respects the tendency of the ligature "to displace a tooth laterally," and the force being "intermittent and unsteady," we opine that in the judicious use of the caoutchouc those evils may be obviated, as well as the inflammation of the gums and alveoli periosteum, and we believe there is no difficulty of applying ligatures of this kind when there are a "number of teeth to be reduced." It may not be necessary to reduce them all at once, but as many as are convenient at a time, shilling the ligatures at discretion. And as we are inclined to believe the age of 12 years is soon enough to apply ligatures, or any other force, and at that age the points d'appui are sufficiently developed to be made use of.

NATIVE AMALGAM.

We have read an article, in the February number of the "Dental Intelligencer," on the subject of Native Amalgam, dated Boston, Dec. 12th, 1846. The article was written behind the curtain; but, when the gentleman feels disposed to come before the public under his own signature, we will notice him. The article of "*Dr. A. Wesecott, of Syracuse, N. Y., now one of the Professors in the Baltimore College of Dental Surgery,*" on Mineral Paste, from which the *unknown* has so liberally extracted, has been reviewed by us, and will shortly appear in the Recorder, therefore we consider any comments at the present time unnecessary.

We have received several communications on the use of the *Letheon*; but as they contain nothing new or important, over the articles we have already placed before our readers, and which are now in type for this Number, we deem it unnecessary to publish them.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to Asahel Jones' General Agent, 263 Broadway.

Country Subscribers can have the Journal sent to them by mail, on the above terms.

All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it: and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol 1.

APRIL 1, 1847.

No. 8.

[For the New York DENTAL RECORDER.]

Until a late period of time, the physiology of the teeth was but little understood, and what was understood, was, and in the main, is, as yet, not put to the best practical use. As it respects the descriptive and structural anatomy of the human teeth, but little progress had been made, until the attention of Luenooke and Rhetzius was drawn to this subject, and in addition to their valuable investigations, we have more recently those of Owen, Goodsir, Nasmyth, Tomes and others, who have carried those investigations to greater perfection. Instead of the low scale Hunter* gives them, they are, by par-

* John Hunter would never have immortalized himself and his name, and, at this time, it would perhaps have been forgotten, had it depended on his work on the teeth. It is stated that this was the first of his published works, and on this subject, it was believed, at that time, that he had displayed "great accuracy of research." From the great reputation he afterwards obtained, his opinions on this subject were adopted, no doubt, as an established theory, and it would have been, at that time, considered heresy to have differed from his opinions.

Now is it not reasonable to conclude, that the Cimmerian darkness in which the physiology of the human teeth remained for so long a time, was mainly owing to the idolatrous worship or slavish fear of the name of John Hunter? If we recollect, he described them as almost inorganic and foreign bodies, and so they have remained neglected and almost despised by succeeding physiologists, until within a few years. But a new era has arrived, conventional rights are now well understood, freedom of opinion and practice are acknowledged and will prevail, and even "errors are tolerated with safety, so long as truth and reason are left to combat them." This is correct; the true spirit of the age in which we live and of freedom.

ticular and microscopic investigations, found to be "fearfully and wonderfully made"—their organization as complicated and complete as any other part of the human system.

We take great pleasure in acknowledging the benefit derived from the perusal of the second lecture of Tomes, on Dental Physiology and Surgery, reprinted in the American Journal* of Dental Science, wherein, by

* It is with unfeigned pleasure that we now and then read an article, in the Baltimore Journal, that is practical, instructive and interesting—"they are like angels' visits, few and far between." From one-third to one-half of every volume (except the first,) containing about 300 pages each, has been filled with prolix and verbose *Addresses, Lectures and Dissertations*, delivered before various dental societies and colleges, and occupying from two to one hundred and fifteen pages each. Thus in vol. 2, which should have contained an announcement after the manner of old almanacs, "*Expect much wind about this time*," we have five addresses occupying 142 pages. In vol. 3, Two, occupying 134 pages. In vol. 4, Six, occupying 104 pages. In vol. 5, Six, occupying 93 pages, and in vol. 6, the number is swelled to *Eleven*, occupying 121 pages. Most of these addresses, &c. contain but little, if any, matter of general or practical interest to the profession, and what there is might be condensed into one-tenth of the space which it now occupies. We are sensible of the difficulty of filling so large a volume (even quarterly) with instructive original matter; but as it is, it scarcely furnishes *that* which may be called "milk for babes,"—which is the more surprising, considering the acknowledged abilities of its editors.

Professor Westcott, the instructor and modern Mentor of the graduates, late of the Baltimore College, gives them *some* very good advice. He, apparently, in a most fatherly and patronizing manner, recommends, "The Societies' Journal, or the American Journal and Library of Dental Science" to their favorable notice, &c. Now *he*, being the *principal* editor, (of course) seems to be recommending his own wares! By the by, *he*, instead of devoting the

aid of the microscope, he has most beautifully and (we hope) correctly described the structure and various dental tissues of the human teeth, together with the nerves, bloodvessels, &c. &c., appertaining to them, and we hail the auspicious time when scientific Dentists will be able to discover the true diagnosis of the various diseases of the teeth, and treat them accordingly.

A correct knowledge of the anatomy, structure, and the different tissues of the teeth, will indicate a very different practice, in many respects, from that which has been usually practised. Such valuable discoveries as have lately been accomplished, will have a most happy tendency in suppressing quackery, for the very plain reason, that a correct practice can be founded on scientific principles, and as the public become more enlightened on this subject, all those ignorant persons, merely "tooth makers," as Dr. Johnson calls them, will vanish, who could never find they had any genius till they engaged in "Dentistry," as they call it. We frequently hear of such persons, after spending a few months in the shop of a mere mechanical dentist, announce themselves for public patronage, in no wise doubting their "sufficiency for those things."

But to return to our subject:—that the physiology of the teeth and all the parts connected with them, their functions, &c., should be well understood, no one will deny. We wish to go no farther into the subject of

anatomical structure, than to indicate what would be a reasonable course of treatment in their various states of disease.

The nerves of the teeth are derived from branches of the fifth pair. At the bottom of the alveoli are found foramina, which the nerves and bloodvessels pass through, and from thence through foramina at the ends of the fangs of the teeth. Those nerves appear to have but a slight, if any, connection with the periosteum* of the dental canal, but when they meet in the body of the crowns of the teeth, ramifications from them extend throughout the dentine portion of the crowns. Hence, it may be well inferred, that the particular use of the nerves is, to impart life and sensibility to those portions of the teeth, and that they have but little or no connection, for that purpose, with the periosteum of the dental canal. So it appears that the life, and hardly the health of the fangs of the teeth, depend much on the nerves.

The use of the periosteum, which surrounds the fangs of the teeth, appears to be to distribute the vessels on the external surface of the fangs, it being of a fibrous texture, and well supplied with arteries, veins, nerves and absorbents, imparting life and health, particularly to the *fangs* of the teeth.

As the functions of the nerves appear to be principally confined to the dentine portions of the crowns, so do those of the periosteums to the fangs of the teeth.

According to Mr. Tomes, there are three tissues, viz.: the dentine, or tooth-substance, cement, or tooth-bone, and enamel.

The dentine forms the principal part of the tooth—the nerve passes in the canal, through it, to the centre of the crown. On

pages of the Journal to *science*, frequently devotes its pages to the ignoble purpose of vilifying his superiors. But to return to his children, the graduates; they *pay* for and "ask him for bread, and he gives them a stone"—for he says, "the *library* part consists of the republication of the *best* foreign works." Now if the works alluded to are the *best*, the Lord have mercy on the *poorest*, for, in the light we view them, they are like, as Bassanio says of Gratiano's *reasons*, "two grains of wheat hid in two bushels of chaff: you shall seek all day ere you find them, and when you have found them they are not worth the search." As for getting any real knowledge from those translations, we would about as soon read over the old Levitical law, respecting the signs and observances that were commanded concerning the disease called leprosy. We most certainly shall be in favor of the Journal, if its editors will please to confine it to useful, practical and its legitimate objects.

* We hold this to be true, from this circumstance. In destroying the nerve of one of the single-fanged teeth, for instance, after introducing a suitable instrument into the dental canal and cutting off the nerve at the foramen near the apex of the fang, the whole nerve is taken away, without the appearance of having been attached to the membrane lining the dental canal. From *this* it may be inferred, that the functions of the nerve are confined to the *crown* of the tooth; all which is abundantly proved, not only by *this* operation, but by Mr. Tomes' *lecture*.

the surface of the dentine is the cementum, or tooth-bone, and the enamel; the former investing the fang and the latter the crown of the tooth. Small ducts, or tubes, pass at right angles from the dental cavity, and pass outwards towards the surface of the dentine, always anastomosing in their way by numerous branches, conveying vessels through its entire body. The cementum commences at the termination of the enamel and terminates at the apex of the fang. Upon the neck of the tooth, the cement exists, but in a thin layer, and is here traversed by minute tubes only, and these, commencing on the surface, pass horizontally *inwards* towards the dentine, but farther down the root the layer thickens, and then the cement is hollowed by cells with branching tubes, the number being in *proportion* to the *amount* of cement. If the layer of cement be farther thickened, we find it provided with canals for bloodvessels. In arrangement, the tooth-bone presents the appearance of laminæ concentrically placed, the centre of the tooth being their common centre; or should a vascular canal exist, it is surrounded by concentric laminæ. The cells are scattered through the cement with some degree of regularity, generally, though not always, following the course as though placed between the laminæ.

The majority of the radiating tubes of the cells, pass, either towards the surface of the tooth, or, when such exists, towards the surface of a canal for a blood-vessel. Many branches also go towards the *dentine* and anastomose with the terminal branches of the dental tubes, while a few follow the course of the length of the root, anastomosing freely with the tubes pursuing the like direction. When the cementum is exposed, unless from some cause it has lost its vitality, it is very sensible to the touch, where the gum has receded.

All that seems necessary for the healthy existence of a tissue, is the proximity of a vascular current. But in tissues where frequent interspaces for vascular currents would interfere with the functions, we find, in the absence of vessels, special arrangements providing for the nutrition of the part. In no instance are the arrangements more

beautiful than in the osseous and dental structures; for each of their functions require that there should be great power of mechanical resistance. In the tooth we find that the centre is hollowed in the form of an arch, in which lie, free from injury, the dental vessels and nerves, while the tubes and fibres of the dental substance are placed vertically to the surface of the arch, thus giving the whole and each tube and fibre the position in which their greatest power of resistance exists, and at the same time providing for the nutrition of each part of the premeability of the tubes, which, passing from the vascular surface, radiate, and, by their branching, pass to every part of the tooth, not even excluding the enamel.

The cement or tooth-bone, when collected together in any amount, is possessed of vessels as well as with cells and radiating tubes in connection with the vascular surface. To *this element* of the tooth we must give the highest praise. The dentine, possessing vessels sometimes, though not constantly, has in all cases its tubes or capillary pores, opening directly upon a vascular surface; this, then, must be considered as the *second*, while the enamel itself, without vessels, is only connected with a vascular surface by the intervening dental tubes, and holds the *third* or lowest degree of organization of the three dental tissues.

If the relative density of tissues be in proportion to the low degree of vitality, still the dental substances will hold the above arrangement. Again, if the relative sensibility of tissues be regarded as an index of their degree of vitality, still the same places must be accorded to the cement, dentine and enamel.

It is a law of nature, that in passing from one form of organized matter to another, no sudden transition shall be made, but that the individual change shall be so gradual, as to be almost imperceptible.

This law we find beautifully exemplified in the gradual change of structure, in passing from the cement to the dentine, and from the latter to the enamel.

The cement and dentine possess so many properties in common, and are often so like each other, that, in some specimens, it is

difficult to determine to which of the two tissues the various parts belong. Thus, in the cementum, we find tubuli terminating in open mouths upon the vascular surface, such as the surface of the root of the tooth, while in the dentine, we observe the presence of cells in radiating tubes; indeed, we see the dental tubuli themselves taking the form of cells with tubular branchings.

It may be inferred, from these facts, that the *dentine* is but a modification of the *cement*; that the dentinal tubes are but elongated cemental cells, and that this elongation is necessary to enable the tooth to perform its allotted function.

In tracing the relations existing between the dentine and enamel, we find the change, in passing from one substance to another, equally gradual.

This is but a partial view or statement of physiological facts, as given by Mr. Tomes, and we would recommend all who are interested in the science, to carefully "note down and inwardly digest" the principles set forth in his lectures, particularly the second.

To him, and the gentlemen before mentioned, belong the glory of, we may say, the discovery of the structural anatomy of the human teeth, together with the various parts connected with them, and which will lead to a just discrimination of all and their different functions, and which will enable us to account for all the vital phenomena of those useful and beautiful organs, both in a state of health and disease.

The errors of diagnosis, which have hitherto classed diseases under the same category, will be speedily corrected. But a knowledge of this kind can be attained, only by a close and attentive study of the pathology which acquaints us with the different periods of disease. If we are ignorant of them, we shall pronounce rashly in many cases.

It has been the general opinion, that the life and even the safety of the tooth depend on the nerve. From physiological facts this is not true, if we except, perhaps, the dentine portion of the crown. This portion of the tooth is evidently sustained by the nerve and membrane lining the dental canal. But it is different as regards the fangs of the

teeth. The cementum, which surrounds the fangs, and which is possessed of vessels as well as with cells, anastomosing with those in the dentine—radiating with tubes in connection with the periosteum or vascular surface, is altogether sufficient, and *alone* sustains the vitality of the fangs.

"*All*," says Mr. Tomes, "that seems necessary for the healthy existence of a tissue, is the proximity of a vascular current." And of the three tissues, to the cementum, as being the most highly organized and sensible, he gives the *first* place, the dentine the *second*, and to the enamel the *last*.

By this hypothesis (which, by the bye, appears to be a true one,) it is quite clear that the nerve has little or no connection with or influence on the cementum, and that the fang of a tooth may remain perfectly healthy after the death of the nerve—this is clearly proven by the anatomical structure.

If any farther proof were necessary, that of *analogy* might be adduced. It is a well-known principle of the *human* system, as well as that of nature, that such is its economy and perfection, that its life and even health, of any portion of it, unless it be the seat of life, does not depend on any particular organ. For instance: by arteries, the blood is propelled from the heart to every part of the body, for the purposes of nutrition, preservation of life, generation of heat and the secretion of the different fluids. Their termination is either in the veins or in capillary vessels, or they communicate by anastomosing with one another.

Any one of those arteries may be taken up or tied, even so important an one as the *innominata*, without materially affecting that portion of the system, principally supplied with blood, by it. So in other respects. Even if one of the senses is impaired, its loss is wonderfully made up by the others.

Now we never heard the wisdom of the great Creator impeached in his works as regards perfection, or for anything unnecessary, relating to the *human* system, save and except what we call the *dentes sapientiae*. We verily believe the teeth to be as perfect, at least in their organization, as other parts of the body, and if they are more liable to disease, by which anomaly in na-

ture, (if it be one) it seems designed to be remedied by *man*, fitted by nature, instruction and experience for such a purpose.

We propose in a future Number to venture some observations on *practice*, deduced from the anatomical structure of the teeth, as laid down by Mr. Tomes and others, and from our own experience, hoping also that more able and better qualified minds will turn their attention to this interesting subject.

No. 6 Warren-st.

E. BAKER.

HINTS TO DENTISTS.

BY CHARLES C. ALLEN, M. D.

Chapter II.—MANNERS.

"Manners is a great matter." It was the remark of a celebrated English statesman, who rose to such eminence as to fill for a considerable time one of the highest and most responsible offices in the government, that "he owed much more of the success which he had had in the world, to his manners than to any superior degree of merit or knowledge." To the philosopher, secluded in his closet, engaged in the study of abstractions, or investigating the occult and hidden mysteries of nature, manners may be of little account; but to one whose daily labors bring him in connexion and competition with his fellow-men, and whose success in his profession, or business, depends in any degree upon the art of pleasing, manner may truly be said to be a great matter. To none is an agreeable and courteous manner of more importance, than to those whose duty or business it is to minister to the personal wants of their fellow-men. To the physician, the surgeon and the Dentist, gentle and winning manners are of the highest importance. It may almost be said, that without them he is sure to fail in his profession. The rude and clownish Dentist, whatever his skill or knowledge, will be sure to be outstripped in his professional career, if he comes in competition with one of mild and agreeable

manners, often when the latter is far inferior to the former in his ability to perform good operations on the teeth.

In country towns, where there is a sparse population, persons of true delicacy, and refinement of feeling and manners, are often obliged to tolerate about their person those who are, in many respects, uninteresting and disagreeable;* but in large cities like ours, where each person can select his own associates, either in business or pleasure, it follows, as a natural consequence, that persons of similar education and refinement, who can sympathize with one another upon the common subjects which draw them together, will form associations of their own, the characteristics of which will correspond with those of the individuals who compose them. This general law of civilization extends not only to the social circle, but to entertainments and amusements of all kinds and to the Church, the different denominations of which are a striking example. We may see it exemplified also in the practice of every physician and every Surgeon-Dentist, the patients of each, with few exceptions, resembling himself in tastes, feelings and manners. The educated and gentlemanly man, in our profession, will draw around himself patients of the same class; the rich, the elegant, the refined and fastidious will employ him and will recommend him one to another, and speak of him in terms of the highest approbation, whenever the subject of Dental Surgery is mentioned in their presence; for in him they find, not merely a Dentist, but an intelligent, interesting and

* I have been told of Dentists, who are in the habit of using the grossest kind of profane language to their patients, when, through fear, they hesitate to submit to their operations. I have also heard of one, who is in the habit of frequently stopping during his operations to regale himself with a pipe and tobacco, which he keeps constantly in his office. A case recently came to my knowledge, where a lady called, by the recommendation of a friend, upon a Dentist (certainly no Adonis) for a double set of teeth, and was so displeased with his manners that, after agreeing to employ him, and while he was absent from the office to procure wax for taking the impression, she slipped out of his house and went immediately to another Dentist, and had her teeth fitted by him at an advanced price.

social companion. On the other hand, the professional man who is inattentive to the little courtesies and civilities of life, who has not a modest self-composure, united to gentle and agreeable manners, who does not study to please in little things—but is blunt, bashful or impudent in his intercourse with others—may never succeed in his profession, although equally learned and skillful. His patients take no particular interest in him personally, and seldom speak of him after their operations have been completed; but if, on account of any rare or peculiar talents or skill which he may possess, they do condescend to recommend him to a friend or acquaintance, it is always with some qualifying remark, as, "You must not expect to find him a gentleman; but he is an excellent Dentist:" or, "You must not believe half he says, for he is very conceited, and ignorant upon all subjects except those connected with the teeth."

Remarks of this kind will frequently have more influence upon a patient, in biassing his mind against a Dentist, than all that could be said in favor of his operations. When there is great disparity, in skill or scientific attainments, between the different members of a profession, and the public discover it, many, it is true, will tolerate disagreeable manners in their professional adviser, rather than not avail themselves of his superior knowledge and skill; but, all other things being equal, they will always employ the man who is most civil and agreeable. It is a matter of great importance to the Dentist, then, to secure the affection of his patients as well as their confidence.

It is not alone in his office that the Dentist should strive to please, but in all the social relations of life. Many a man owes his success, in his profession, more to friends and acquaintance made when out of his office, than to any superior dexterity in his operations, and hundreds have failed to procure patients, simply because they did not make friends.

When in mixed company, it is in very bad taste to introduce one's own business as a subject of conversation; but, when alluded to by others, he should never betray an unwillingness to speak freely upon the subject,

or to answer modestly any professional questions that may be put to him, as, by so doing, if his manners are agreeable, and his conversation such as to convey the assurance that he understands his business, he will often gain new patients and friends; whereas, by betraying any shyness or unwillingness to speak upon the subject, he will often be set down as a quack, who shrouds himself in mystery—an ignoramus, who does not understand his business—or an insolent booby, who is ashamed of it.

"Modesty is a polite accomplishment, and generally an attendant upon merit"—be modest, therefore, in estimating the value of your own services. In doubtful cases, the Dentist should be extremely guarded in his prognosis, never promising more than he is sure he can perform. If, for instance, he is called upon to treat an aching tooth, he should be cautious how he assures the patient that it will never pain him again; it is much better to assure him that he will always be liable to trouble with it, as long as it remains—or, if a difficult tooth is to be filled, where there is a doubt about the durability of the filling, the patient will generally be satisfied with an assurance from the operator, that it will last him a few years; and, if it should last him longer than he expected, the Dentist will get credit for both skill and honesty; but, if he assures his patient that he can make the tooth so good, that he will carry it with him to his grave, and it should fail after *five* or even *ten* years' good service, he will be sure to remember the promise made to him when his tooth was filled, and will say that the Dentist was mistaken in his prognosis. Every Dentist should be contented to let his works praise him; which they surely will do, if they are good works. An elegant writer observes, "Whatever real merit we have, other people will discover; and people always magnify their own discoveries as they lessen those of others." While, on the one hand, we avoid boasting of our own ability or skill, we should also, on the other, be ashamed to detract from the merits of others who have been more successful than ourselves. This jealous and envious disposition, (which, I am sorry to say, has always been too common among

professional men,) is one of the meanest feelings that can gain possession of the human breast. Instead of endeavoring, by honest efforts, to emulate the virtues and rival the skill, of those who have toiled the hardest to gain the desirable reputation which they possess, the envious mind would drag them down to the common level which he himself occupies. Every profession should be proud of the great names which adorn it, whether they have preceded, or are contemporaneous with, our own. They should be constant watchwords with us—our “Excelsiors” to urge us onward and upward, in our slow and toilsome progress towards perfection. The generous mind will always take more pleasure in praising the good works of others, than in condemning the bad. Justice to the public, however, and to our own patients, should always prompt us to expose the arts and tricks of the empiric and the ignorant; but, in so doing, we should endeavour to show the bad operation or general bad practice, instead of condemning it or the practitioner upon our own ipse dixit; by so doing, we convince others that we are not governed by prejudice, nor a desire to detract from the merits of others.

There is a gentle and delicate manner of handling the head and soft parts about the mouth, which is very agreeable to the timid portion of our patients, and which all who operate upon the teeth should study to acquire. The difference in the manners of Dentists, in this respect, is very great. Some, with the cuffs of their coat-sleeves turned back, and armed with a formidable instrument (a file, burr-headed drill or turn-key), approach their patients like a bully just entered the list at a boxing match, and commence operations at arm's length, priding themselves upon their dextrous, off-hand manner of operating. Such persons generally get the reputation of being harsh, and inflicting an unnecessary amount of pain, although the difference, in this respect, is often more apparent than real. Others, if they do come nearer to their patients, are no less offensive in their manner of operating; for with the scratching of the finger nails on the chin and cheeks, the irritation and friction of instruments upon the lips, the filing

and lacerating of the gums, the slipping of plugers, &c., the patient will frequently suffer more from injury done to the soft parts, than from the operation upon the tooth.

Gentleness in moving the head from one position to another, a quiet manner of using the different instruments without any show or parade, a judicious management of the napkin, so as to guard the lips and other parts from the raking of instruments upon them, the resting of some of the fingers or thumb upon the teeth, to avoid pressure on more tender parts, and the slipping of forcing instruments—these, and many other things which a little reflection will suggest to the mind of every Dentist, should be attended to by all who are desirous of enjoying the reputation of being easy and gentle, as well as thorough and skillful operators upon the teeth. By proper attention to these minor points of practice, all the common operations upon the teeth may be performed, without giving any inconvenience or just cause of complaint to the patient; and the very common complaints made about some Dentists, by those who have been their patients—who often call them “rough, cruel and barbarous,” “butchers,” and “perfect bears”—should induce every operator upon the teeth, to practice as much “*suaviter in modo*” as is consistent with “*fortiter in re*.”

While we pay all due deference to the wishes and whims of our patients, in matters which do not affect the nature of the operations that we are about to perform, we are not, by any means, to compromise our own judgment, or sacrifice our own opinion, upon an important operation. In cases of this kind, the Dentist should be firm as a rock in adhering to his own opinion, when formed after proper investigation into all the attending symptoms and circumstances. Every patient, worth retaining, expects to abide by the judgment of his Dentist, when he applies to him for advice.

There are many times, in the practice of the Surgeon-Dentist, when it will require great self-control to preserve his patience and equanimity of temper. This is particularly the case with children who have never been controlled at home, and with timid, hesitating persons, who have not sufficient

firmness of nerve to submit to the necessary operations. In these cases, the Dentist will need all his eloquence and persuasion, to encourage the timid and sustain the weak and faltering. He must be patient with the hesitating, gentle and persuasive with the young and timid, long-suffering with the irritable, cool and deliberate with the impatient, and at all times exhibit a kind, encouraging sympathy for the sufferings of the patient. Such persons are often excessively mortified at their own want of courage and firmness; and, if there is the slightest reason, will often seek to excuse themselves, by putting the blame upon the Dentist, saying, "Well, I didn't want him to pull it when I went in; but he would do it"—or, "He was so rough and uncouth in his manners, that I couldn't bear to have him come near me"—or, "I should have had it done much sooner, if he hadn't scolded me so." I have often stood, with my forceps in my hand, over a timid female, trembling with fear at the thought of having an aching tooth removed, from one to two hours, and, in such cases, I have generally succeeded in the end in accomplishing that which she feared so much, yet so strongly desired, by mild and gentle persuasion, and by encouraging her to submit as a means of avoiding much subsequent pain and other unpleasant consequences. Kind words and pleasing manners, under such circumstances, will do much to gain the confidence and affection of a patient, while a rough and impatient manner, joined with harsh and abusive language, would not only fail to accomplish the object which she desired, but cause her to leave the office of the Dentist, with a firm determination never to enter it again.

Still more trying is it, when weak and timid parents bring their ungoverned and obstinate children to the Dentist, and when, oftentimes, the child is more frightened by the timidity and hesitation of the parent, than by any fear of the operation.

Such parents will often lie to their children to accomplish their purpose, assuring them that the operation will give them no pain; or they will request the Dentist to deceive the child, and extract the tooth before he knows it, or when he has promised that

he will not do it. If the child is not lacking in courage, but ready to submit with a firm nerve to the operation, he will frequently be frightened by the hasty flight of the parent from the room, before the Dentist has fairly commenced the operation. In all such cases the Surgeon-Dentist should pursue an honest, straight-forward, conciliating course with the child, endeavoring to soothe and quiet him when excited, and encourage him, when consistent with truth, by assurances that the pain will be trifling and soon over; but by no means resort to falsehood or deception, for, by so doing, he will lose both the confidence and respect of the child for ever after. In a few cases, it seems necessary to resort to physical force, to compel timid and obstinate [children] to submit to necessary operations upon the teeth; but this should never be done, except at the earnest request of the parents or guardians of the child, and when one of them is present to witness the operation, and see that no unnecessary harshness is used to accomplish the purpose desired; otherwise, the child will be apt to blame the Dentist, and, in his anger, accuse him of much unnecessary cruelty and severity. The parent should, therefore, always be made to assume the responsibility, and the Dentist should only be his agent; by so doing, the child will always put the blame where it is deserved—upon the parent; for, if he had been properly governed at home, a word would have saved all trouble in the office of the Dentist.

A hint upon the treatment of the poor—and here, I confess, I feel my inability to speak, or write, as the merits of the subject demand. Among all the benevolent institutions of this benevolent age, there is as yet no *Dental Infirmary*. It is a desideratum which some means should soon be devised to supply, for the relief of those who are unable to avail themselves of the services of the Dentist. Until something of this kind is instituted, the burden of operating upon the poor will come heavily upon young Dentists, who have not sufficient practice to occupy all their time. And they cannot employ it to better advantage, than by devoting a part of it to gratuitous operations—

This is a benevolence which "is twice blessed, it blesseth him that gives, and him that takes," in a temporal as well as spiritual sense. None will be more earnest and devoted friends to the Dentist, than those who have had their teeth preserved by him at a time when they were unable to remunerate him for his services. Many operations of this kind, performed several years since, at little or no expense of material, and at a time when I had no other business, have paid better than if I had then received the highest fee.

Servants and dependants should always be treated with respect and kindness, and, whatever operations we perform for them, should be done in the very best manner, as by so doing we shall often gain for our patients their guardians or employers; or, if we have them, shall be more likely to retain them, than if we slight or neglect those whom they have seen fit to send to us.

A lady once came to me, and afterwards brought her whole family and many of her family friends, because she saw that her servants, for whom I had operated, had handsomer artificial teeth than her own.

When we consider that looks and actions, combined, make the first impression upon the stranger, which is often the most lasting, and are the first indication which he has of our character, and while there are so many professing Dentists who, either through ignorance or neglect, are most lamentably deficient in good manners and the art of pleasing, I trust that none of my brethren will think that I have devoted too much space to a subject of minor importance, and which is so necessary to the usefulness but success of all Surgeon-Dentists, that, if they understood their own interest, they would be more careful to study and practice upon.

If these few *hints*, which I have thrown out upon *Neatness* or *Manners*, save any of your readers from experiencing a more *forcible* and disagreeable demonstration of contempt or dislike, the efforts of the writer will not be wholly lost.

NEURALGIA FACIALIS.

DR. WARE.—The following hint may, perhaps, prove serviceable to some, which is my reason for troubling you with it. Persons have often fallen in my way, who have suffered greatly from the complaints usually termed Neuralgia or Tic Doreux. In almost every instance, however, I have found, that, although attributed, with confidence, to the teeth, the suffering has resulted from diseased conditions of the body or some nervous depression of the patient, wholly disconnected with the teeth. Now it is a common practice with some Dentists, under such circumstances, to extract some tooth or teeth, in or near the locality of the pain, under the impression, too hastily formed, that in such tooth or teeth may be found the hidden cause of the patient's suffering. In this way many a sound tooth has been extracted and lost, while the true cause of the disease has still continued.

A case this moment occurs to my mind. Mrs. N—, under this erroneous impression, had one tooth after another extracted, till, in fact, every tooth on both sides, back of the canine teeth in the superior maxillary, was absolutely gone. Yet the pain still continued in force unabated. The pain, however, was at any moment easily relieved by the use of tonics and stimulants.

In the case of Mrs. E—, who, for six weeks, had been under severe pain from Tic Doreux, called upon me for advice. After the necessary inquiries, I prescribed for her (as I had often done for patients in intermittent cases,) sulphate of quinine, in one grain doses, every two hours. In this case, as in many others, the remedy operated like a charm, to the great satisfaction of the patient. Might not this practice, judiciously followed, be often of essential importance both to the Dentist and his patient?

A. JOHNSON.

[We have met with similar cases; but, if a careful examination of the symptoms was made, no such great mistake would occur. Although the teeth are the most common cause of Neuralgia about the head and face, yet it does not follow that it is the only one.

[—ED.]

THE USE OF ACIDS, AS A SUBSTITUTE FOR THE SCALING INSTRUMENT FOR CLEANSING THE TEETH.

Our attention has of late been called to the use of acids, for cleansing the teeth, which are said to be used by a few Dentists, who hold a favorable position before the public as scientific operators. Upon what principle an acid is preferred to the scaling instrument, we do not understand; perhaps those who make use of it can enlighten us on the subject. It would give us much pleasure to hear their defence, for using so powerful and destructive an agent. Our opinion is, it should never be used, however much diluted. We have heard the plea, that its great affinity for water prevents any deleterious effects upon the teeth. It is true that nitric acid (which we believe is most generally used,) has a great affinity for water, and it is equally true, that it has a strong affinity for the enamel of the teeth. It is impossible to determine the amount of injury done to the teeth, by a single application of acid for the purpose of cleansing; for its effects would not be immediately perceptible. The absorption of a small quantity of acid by the enamel, would change its composition, hence weaken its solidity, by destroying the proportions of its original formation. That enamel which is most perfect and durable is composed of several materials, and in certain proportions. Now, if you alter the proportions, and the substances, you injure its durability; but when an acid, of sufficient strength, is applied to the enamel, to dissolve it and hold it in solution, the effect must be deleterious.

The enamel is composed almost wholly of the preparations of lime, therefore it has a strong affinity for all of the acids.

We give below the analysis of the enamel by Berzelius, which we believe to be correct. In 100 parts:

Phosphate of Lime	85.3
Fluate " "	3.2
Carbonate " "	8
Phosphate of Magnesia	1.1
Soda and Muriate of Soda	1
Animal matter and Water	1

100

The scaling instrument should always be used for cleansing the teeth, where there is tartar to be removed, and their temper ought to be the same as the engraver, and a smooth-cutting edge put upon them before commencing the operation; then, if the tartar or other foreign matter is carefully removed, the surface of the enamel is left perfectly smooth, and greatly improved in beauty and durability.

In all cases, where there is no tartar either on the crowns of the teeth or encircling their necks beneath the gums, but only a thin collection of coloring matter on the surface of the enamel, it may be removed with finely pulverized pumice stone, applied with a moistened piece of cedar.

LOCAL NEURALGIA.

The cases which I have already given, in the course of the work, of painful affections produced by local irritating causes, such as the pressure of a portion of gold upon the nerve of a tooth which had been filled—or of exostosis at the extremity of the root—will at once illustrate the interest which this disorder possesses in relation to the diseases of the teeth. In addition to these, I have to add some others of a similar kind, which equally bear upon the subject in hand, and prove how remotely the effects are sometimes felt of the most simple and apparently trifling causes. The two following are of this character.

In May, 1827, Mr. D., a gentleman about fifty years of age, applied to me in consequence of severe pain occurring in irregular paroxysms, first attacking the ear, and from thence darting down the neck and shoulder, and through the whole length of the arm, so as considerably to diminish the power of the hands and fingers. He had been for more than a year the subject of this affection; and had latterly consulted a physician of the highest character, who, finding that the medical treatment which he recommended had failed to produce the slightest relief, requested me to see him. I was informed that the second inferior molar tooth had been broken about two years before, in an attempt

to extract it, and the roots were now remaining in the jaw; the anterior one having been partially thrust out of the alveolus, and lying obliquely upon the gum, the posterior still remaining firmly fixed, but evidently producing considerable irritation in the surrounding parts, with increased pain on pressure, which in some degree assumed the character of those paroxysms which he had so long been suffering. I therefore removed both the roots, and had the satisfaction of hearing, some time afterwards, that the complaint had entirely ceased.—*Bell on the Teeth.*

(From the Journal of Commerce.)

PARIS, March 1st, 1847.

The all absorbing topic of conversation in the Saloons of Paris, and the all engrossing discussions in the learned and scientific Societies here, as in most of Europe, is our "American discovery" of performing surgical operations without pain. All the nations, I might almost say, all the individuals, are trying to claim the merit of the discovery.

Numberless communications are published from persons who knew all these things long ago, twenty, thirty, and forty years since; yet, to the present moment, they have not succeeded in wresting the honor of this discovery (the greatest ever given to man since the days of "Jenner,") from the western world.

I have seen in your paper of the 30th December last, a letter from Dr. Marcy, which gives the whole honor to Dr. Horace Wells, dentist of Hartford. I have also seen in the 6th January, Dr. Jackson's reply, and the rejoinder of Dr. Marcy, in the 8th. In the "Boston Medical and Surgical Journal" I see a letter from Dr. Ellsworth, which gives the discovery to Dr. Wells. These are things which I hope you will settle fairly on your side of the water, and let "Cæsar have the things which are Cæsar's."

Dr. Wells has been for the last few days in Paris. His claims to the discovery of performing operations without pain, have been presented to both the "Academie des Sciences," and the "Academie de Mede-

cine," where they are under consideration. He has likewise been before the "Parisian Medical Society," and related the history, progress, and final result of his discovery; I was present; the Society were of opinion, that if Dr. Wells brought forward proofs that he had performed the extraction of teeth in 1845 without pain, then he would be entitled to the merit of being the discoverer.

Imagine to yourself Messrs. Editors, a man to have made this *more than brilliant discovery*, visiting Europe without bringing with him the proofs. Dr. Jackson acted much more wisely, when he claimed the discovery; for he wrote to the "French Institute," his letter bore the Boston, Liverpool, and the French post-marks, then it was sealed by the Institute, its receipt recorded, and left sealed until ordered to be opened. Had Dr. Wells done the same thing in Nov., 1844, his claim would not now admit of a doubt.—Whether he used the nitrous oxyde gas, or sulphuric ether, matters but little, inasmuch as their results are the same, and he seems after having tried them both, to have given the preference to the gas, as being more agreeable to inhale. Other kinds of ether have since been tried here, but none pretends to claim the merit of the discovery by using a new substitute.—Though there are some persons skeptical as to its ultimate value, I have used it in many cases with perfect success, and have seen some of the most painful operations in surgery performed in our hospitals without the patients feeling the slightest pain. No country in the world offers the same facilities as France, for testing the value of any discovery in the medical science. Here man and beast are made subservient to the rigors of experimental proof. When this discovery was first mooted, some feared danger from fire, that the breath would ignite and the lungs explode; but the many experiments made at Alfoet upon horses who had been made to inhale the ether, prove that when the lamp is applied to the mouth immediately after inhalation, a blue flame burns exteriorly, but soon expires without the slightest harm or danger.

As an American I feel proud that this discovery originated in my native land, and

regret that any efforts should have been made to rob the rightful discoverer of his just due.

Very truly yours,
BREWSTER.

We extract the following from the "Boston Medical and Surgical Journal."

"The effect of what I have seen, has been on my own mind a firm conviction, that the discovery of Drs. Morton and Jackson has added to the resources of the surgical art one of the most invaluable benefits of which modern times can boast. It is certainly a great boon to suffering humanity, and they deserve the unmingled gratitude of mankind. In amputations, and all other surgical operations which can be performed at once with rapidity and safety, this discovery furnishes a perfect immunity from pain; and in those more protracted, a great alleviation may be obtained.

"In reference to the *rationale* of the process, it will immediately occur to the practical surgeon that in cases of cerebral injuries, where coma exists, and where operations for cutting the scalp and removing bone by the trephine and saw, are habitually performed without consciousness on the part of the patient, a case is presented parallel to that of insensibility from inhaling the vapor of ether. The ether is absorbed with the oxygen of the atmosphere during inspiration. Is it not natural that it should excite a certain degree of dilatation of the vessels of the brain, slight and evanescent certainly, but still producing a temporary pressure on the cerebral substance, thus furnishing at once an analogy with the coma of compression, and an explanation of this most singular and interesting phenomenon of insensibility to the knife induced at will, and with an impunity as real as it is surprising." *Cox.*

TO THE DENTAL PROFESSION.

In consequence of the many conflicting opinions among Dental practitioners, in reference to the adaptation of Mineral Paste for the preservation of diseased teeth, and its favorable or unfavorable influence upon the constitution, when used for that purpose, a number of the profession have employed Dr. Chilton to examine this subject, and the result of his examination is to be placed before a committee of medical gentlemen, for the purpose of receiving all the facts in the case, for and against its use, and to give their united opinion to the public. The Dental profession are therefore respectfully invited to place before Dr. Chilton such tes-

timony as each individual may believe to have a bearing on this question—and the opponents to the use of mineral paste are particularly invited to present all the evidence against it in their possession; and we would suggest to them the propriety of sending to the Doctor a number of teeth, having in them large and small cavities, filled with gold, for the purpose of macerating them with other teeth, containing like cavities, filled with mineral paste, in a coloring fluid.

We have received a copy of the "New York Surgical Reporter," which is conducted with much ability, and, if we may be permitted to form an opinion of its merits from the Number before us, it will be of great service to practising physicians, and particularly so to those in the country. We hope it will be liberally patronized, for it is truly worthy of such support.

It appears from an article in the Feb. No. of the "Dental Intelligencer," that its editor, Mr. Robinson, of London, England, has recently paid a visit to America, for he says, "We were shown a few days since, at *Baltimore*, a set of extracting forceps manufactured by Mr. Francis Arnold, of that city, after the pattern of *Dr. Harris*,* which, for beauty of design and workmanship, far surpassed in execution anything of the kind we have ever seen." We would like to be informed whether Mr. Robinson has taken up his residence at *Baltimore*, or returned to the *Old World*.

* It has been hinted to us, "that Dr. Harris is the editor of the 'Dental Intelligencer,'" but for its truth we do not hold ourselves responsible. But it appears strange that Mr. Robinson should have visited America, and his arrival not have been made public.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 736 Broadway, New York; or to Asahel Jones' General Agent, 263 Broadway.

Country Subscribers can have the Journal sent to them by mail, on the above terms.

All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol 1.

MAY 1, 1847.

No. 9.

HINTS TO DENTISTS.

BY CHARLES C. ALLEN, M. D.

Chapter III.—PIVOT TEETH.

DR. WARE,—In a late number of the Recorder (No. 6), I noticed a communication upon the subject of pivot teeth, calling the attention of the manufacturers of artificial teeth to the construction of the pivot holes.

The suggestion of your correspondent is a very good one, especially in reference to those teeth that have a large proportion of spar in them, or are over-burnt. In such teeth, the pivot hole is highly glazed, which causes the crown to slide from the pivot much easier and more frequently than when it fuses less and remains rough. It is often the case, that the biting of the lower teeth against an upper artificial one, when it does not slide it entirely from the pivot, presses it forward, so as to leave a space between it and the end of the fang; particles of food lodge there, fermentation and decomposition go on, and soon the end of the fang is found decayed. Most cases of decay, in the roots of teeth supporting artificial crowns, are from this cause, and, whenever the Dental Surgeon finds an artificial tooth in this condition, it is his duty to apprise his patient of the inevitable result, unless it be reset and retained in close proximity to the end of the fang.

When there is not sufficient room for the ordinary pivot tooth, owing to the antagonistic tooth striking up too high or being too prominent, a thin plate tooth should be selected and set upon a gold plate, well fitted

to the end of the fang and secured by a gold pivot; care being taken to cover the back well with gold, so that the pressure may not come upon the tooth, which would soon break the platina wires or draw them from the porcelain. This is undoubtedly the best and most thorough method of securing artificial teeth to the fangs, *in all cases*. The wooden pivot is a miserable contrivance at best, and for various reasons.

1st. None but large sized crowns will admit a pivot sufficiently large to hold the tooth, without danger of splitting, when the moisture of the mouth causes the wood to expand, as it always does in a few hours. (When they are narrow, as in most cases of lateral incisors, or thin, they frequently split in two pieces, and often at a time when the patient cannot conveniently return to his Dentist; the manufacturers understand this, hence the great difficulty in obtaining narrow lateral incisors.)

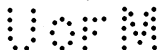
2d. The wooden pivot absorbs a great deal of moisture, which soon becomes offensive, and imparts a taint to the breath.

3d. In very short teeth, there is not sufficient depth to the hole to make the pivot secure, frequently less than one-eighth of an inch.

4th. We are obliged to make the pivot so large, that small roots are sometimes split by the expansion of the wood. To these we may add:

5th. The pressing forward of the teeth, by the force of the lower ones, which has been before alluded to.

The gold pivot is not liable to any of these objections, and, when skilfully in-



serted, will frequently last for twenty years, or longer, without resetting. It is but a short time since I removed one, inserted by Dr. Rossiter, and which had had no operation performed upon it for more than twenty-two years. It supported the crown of a natural tooth, in a clean and healthy mouth, until there was not enough of it remaining to stick upon the pivot. On removing the pivot from the fang, I found the thread, which was wound around it, almost, if not quite, as strong as ever it was, and holding the pivot with such tenacity as to require a strong effort to detach it from the fang.

To insert a tooth on a gold pivot, in a neat and proper manner, the Dentist should have, in the first place, two or three drills of the proper sizes for drilling the fangs. Gold wire, drawn the proper sizes for the drills, and cotton, linen or silk thread, (I am not sure which is best, but either will answer,) the right number, to wind around the pivot, and have it press into the root as tight as possible, without splitting. To insure success, without trouble or loss of time, the operator should, in this as in every other operation, have a perfect system. His drills must be used for no other purpose which will wear them smaller, else the pivot and thread will not go in. The gold wire must be drawn to a certain number on the wire gauge, with great precision, and the thread should always be the same.

After preparing the root for the insertion of the tooth, a plate of gold should be accurately fitted to the end, so as to cover it entirely; it is then to be pierced for the pivot. A piece of wire, at least one inch in length, should be wound with thread at the end, of a proper size to fill the hole in the fang and allow it to go in and out easily, that the pivot may surely go straightly into the hole, and occupy the centre of it; the plate is then slid on to the wire, up to the root, and secured in its proper place by a small piece of wax, when both pivot and plate may be removed together.

After the thread is removed, that part of the wire intended for the pivot, with the plate attached to it, must be covered with plaster and sand, to secure them together while soldering, and, when it is sufficiently

hard, the wax on the other side of the plate may be removed, and the plate and pivot soldered securely together. When this is done, the remaining wire which passes through the plate may be cut off, the pivot wound again with thread, which will admit of its being easily removed from the root, and at the same time fill the hole, and the whole inserted again in the mouth.

It is then ready to fit the tooth to, which is to be done in the same way that plate teeth are, placed and secured in the proper position before soldering.* A tooth, set in this way, can almost always be made so thin as to avoid collision with its antagonists for a long time, and as the end of the root is effectually protected from the action of foreign substances, it will remain sound for a great many years, in many mouths through life. Another advantage gained by this manner of inserting teeth is, that when the fangs are displaced, from any cause whatever, the artificial substitute can be put upon the plate in the best position to restore the symmetry of the teeth, without reference to the pivot. I have inserted pivot teeth in this way for several years, and have never, in a single instance, had them work loose or require an operation of any kind. Wood pivots, like tin fillings, are, in my opinion, admissible only when we wish to preserve the tooth or fang but a short time. Cases are of frequent occurrence, where young persons have neglected their teeth, until one or more of the most conspicuous have decayed too much to be preserved by any surgical skill. To put artificial crowns upon these fangs, in such an imperfect manner as to allow foreign matter to accumulate about them, causing their decay in a few years, and then to replace them with substitutes on gold plate, is a kind of malpractice in Dentistry which I have seen too much of within the last few years to regard with any other feelings than contempt and indignation. This is worse than filling with amal-

* A very good cement, and much more adhesive than wax, to stick the tooth to the plate while fitting, is composed of gum mastic, 2 or 3 parts, white wax 1, colored or not with a little rose pink.

gam: it is a dishonest use of the confidence placed in us, when our patients confide to our care their *choicest pearls*, and which ought to consign the operator to the total neglect of the public, and to the scorn and contempt of his professional brethren. It is high time the public understood that *the most perfect artificial substitutes for natural teeth are poor enough*.

Several years since, I procured a few hundred pivot teeth from Mr. Brockway, of Troy, N. Y., with a screw cut in the hole, which answered an excellent purpose, and effectually prevented the pivot from starting. I am glad that your correspondent has thrown out a hint to the tooth makers to improve the quality of their wares. Many other Dentists have been laboring with them, for several years, to effect the same object, but their efforts, thus far, have had but little influence. More than two years since, the head of one of the most extensive manufacturing in this country promised me that he would immediately have moulds made, which would give a natural form to lower bicuspid teeth, with the external point nearly over the axis of the tooth, so that it would articulate between the two points of the superior bicuspides; but, up to this time, I have never seen a natural looking inferior bicuspid, manufactured by this concern or by any other in this country, and I have never been able to articulate a double set of artificial teeth, without grinding these teeth so much as to greatly injure their appearance.

Unfortunately for the Dentists, the manufacture of artificial teeth, in this country, has been confined, until of late, almost exclusively to one or two concerns, who have supplied the market in their own way, and the Dentists have been obliged to take such teeth as they saw fit to make; but, within the last few years, many others have turned their attention to the subject, and the prospect now is, that ere long the competition in this line of mechanical Dentistry will be as great, and its results as beneficial to the profession and the public generally, as in any other branch of the arts.

It is manifestly for the interest of the Dentists to encourage all new attempts at the manufacture of teeth, that they may

have a greater variety to make their selections from, as well as because, the greater the competition the more perfect the articles produced.

From the Am. Journal and Library of Dental Science.

An Introductory Lecture, delivered before the Class of the Baltimore College of Dental Surgery, at the Session of 1846-'47, by A. Wescott, A. M., M. D., Professor of Operative and Mechanical Dentistry, &c. &c.

Gentlemen—Students of the Baltimore College of Dental Surgery:

You have doubtless been attracted hither by the belief that you could here enjoy pre-eminent advantages for qualifying yourselves for the profession of your choice; a profession alike useful and honorable.

Believing that the ardor and success with which you will pursue your studies, will in some measure correspond with your conviction, that you are here on the high road which will conduct you to the object of your ambition, I propose, in entering upon the duties to which I have been invited, to call your attention to the question:—*Do Dental Colleges possess peculiar advantages over any other means of securing a Dental education?*

This, gentlemen, I conceive to be a question, not only of interest to you personally, but one involving, in a high degree, the future usefulness and respectability of our profession. As we cannot refer for proof to actual results in institutions of long standing, it becomes necessary to look at the distinctive features of the profession, and institute an examination into its nature, its attributes, and its requisitions.

We shall find this, in itself considered, by no means a barren or unprofitable field of investigation. Nothing can, indeed, be of greater importance to the student in any profession, than to learn early what branches of knowledge or science can essentially contribute to his success in his specific calling. Every science which is connected with matter, is necessarily connected with other sciences; and, in most instances, it very materially depends upon many others for its perfection. It would, for example, be quite impossible to conceive of natural philosophy, in the present state of that science, without the aids it has derived from chemistry; and chemistry in turn, is equally indebted to this, her sister science. A similar remark will apply to every science connected with material objects, however distinct either may be regarded or taught. No very great proficiency can be made in any one, without some knowledge of all the others.

The science of *medicine*, which has for its object the prevention and cure of disease, is one of vast magnitude. If it does not include, it levies frequent and extensive contributions on every other science. When viewed with reference either to its comprehensiveness or

importance, it may emphatically be regarded the primary, in the whole system of sciences

But, owing to the extent of the field which the general science of medicine embraced, divisions and subdivisions, for convenience' sake, have from time to time been made.

The necessity for such division was enhanced, as the field was explored and cultivated, by bringing to its aid the collateral sciences. Nor hardly need it be observed, that the progress towards perfection, which was made in the several departments, kept pace with the attention which each branch specifically received. Nothing can be more striking than the change which has been wrought in general surgery, since it has become a distinct field of investigation and practice.

True, the common physician frequently performs many of the minor operations, with a good degree of skill. But of whom did he obtain this skill? Was it from the physician, who had only pursued surgery, in common with the other branches composing the general science of medicine? By no means. No, he was taught by a master, who had become such by devoting his special attention to this particular subject, perhaps for a long series of years.

This division, then, has wrought a two-fold good. It, on the one hand, has perfected a specific branch of medicine; and, on the other, has reflected back this perfection upon the general practitioner, imparting to him a skill before unknown. Many other divisions have been made, creating distinct departments of the healing art, and the result has been equally marked and happy.

The oculist has given eyes to the blind; the aurist has caused the deaf to hear; and the *dental surgeon*, with science no less profound, has relieved suffering humanity from the most excruciating pains that "flesh is heir to;" and by preserving or restoring the organs of mastication, has imparted youthfulness to age, restored to health the enervated dyspeptic, for ugliness has substituted symmetry of features and has restored distinct enunciation for the broken, inarticulate lisping of toothless decrepitude.

Although these several divisions are spoken of as constituting so many distinct branches of the healing art, yet it is by no means to be understood that the student in either can be excused, hence, from acquainting himself with the general subject of them all—the human system. Neither does the fact, that these several divisions depend upon the same general principles, interfere with their being both studied, and taught as distinct branches of science. The wholesale dealer, who sells but a single class of articles, would by no means relinquish his right to be ranked as a merchant, because his neighbor, a retailer, sold every kind of merchandise from a single counter.

Nor is it hard to perceive that the latter, with a given outlay of capital, could much more perfectly manage his single branch of business. Professional men too often become retailers in science. In other words, they frequently divide their time and intellectual capital among several branches, any one of

which, to be well managed, should receive the whole.

Now the divisions alluded to in medical science, are for convenience' sake alone; and, but for this consideration, might be regarded arbitrary. Could any institution be sufficiently extensive to give adequate attention to every apartment, there would be no objection to the same institution embracing the whole; and could the student devote the adequate time and means, and did he possess the mental capacity successfully to cultivate so extensive and varied a field of pursuit, there could certainly be no objection to his assuming the task. Should he be successful, he would have the satisfaction of having accomplished the work of many. Such prodigies, however, have hitherto been rare. If we consult the history of the arts and sciences, and especially that of our own day, a time when such prodigious advances are made in both, we shall not fail to recognize the *labor-dividing system*, as the most prominent and efficient agent in giving such impetus to the march of improvement, in every department of labor and learning.

Permit me now to call your attention to that department of the healing art in which you are particularly interested, and which it is your purpose here to cultivate—dental surgery, its attributes, and the requisite qualifications in order to become a skilful practitioner in this single department.

I doubt not that, if I am successful in presenting these attributes, and the requisitions which this subject, if properly mastered, will make upon your time and attention, two conclusions will force themselves upon you, viz:

1st. That it will furnish a most ample field for all your time and talents; that if you cultivate your profession efficiently, you will never have occasion, as did Alexander, to weep because there is nothing left to conquer.

2d. That institutions, specifically devoted to dental surgery, are necessary, in order to the full development of the principles it includes.

I have already observed that the divisions in medical science are made for convenience' sake, and it will be proper here to add, that the extent of the field embraced in the different departments, is fixed upon the same principle.

What is the field allotted to the dental surgeon?

The term dental surgery does not, if construed literally, convey an adequate idea of what is, by common consent, included under it. Although this term is descriptive of the chief business of the dentist, and gives his department "a local habitation and a name," yet it by no means embraces the entire field of his inquiries, or even his operations. While it is the business of the dental surgeon to inquire into and treat the diseases of a specific class of organs, it is also no less his duty to ascertain, if possible, the *cause* of such disease, its connection with other parts, and whether his remedies are to be applied directly, or whether they are not to be directed to the overcoming of some latent difficulty, antecedent to the most prominent disease. In other words, his province and duty is not merely to treat

these organs as though they were isolated portions of the system, but as parts of the general system, governed, in many particulars, by the same laws, influencing and being influenced by every other organ.

The Professor very correctly informs us, "that the term Dental Surgery does not, if construed literally, convey an adequate idea of what is, by common consent, included under it. Although this term is descriptive of the chief business of the Dentist, and gives his department 'a local habitation and a name,' yet it by no means embraces the entire field of his enquiries, or even his operations. While it is the business of the Dental Surgeon to enquire into and treat the diseases of a specific class of organs, it is also no less his duty to ascertain, if possible, the cause of such disease, its connection with other parts, and whether his remedies are to be applied directly, or whether they are not to be directed to the overcoming of some *latent* difficulty, antecedent to the most prominent disease. In other words, his province and duty is, not merely to treat these organs as though they were isolated portions of the system, but as parts of the general system, governed in many particulars by the same laws, influencing, and being influenced by every other organ."

This portion of the Professor's lecture we are much pleased with, and can give our cordial consent to the importance of a thorough medical education to those who are preparing to practise Dental Surgery, and we consider the extract we have made a good and sufficient witness, to prove the superior advantages that would be obtained, by the *Dental student*, in our Medical Colleges with a Chair of practical Dentistry, over any institution confining its instruction to the teeth, general anatomy, &c.

After reading this sentence in the Professor's lecture, the reader would be led to believe that ill health, and many other influences (independent of external substances) might produce caries and many other diseases of the teeth, and that all such cases, to be faithfully and successfully cured, should be both locally and generally treated, according to the character of each individual case. All this is true—but, after the

Professor has proceeded a little farther in his lecture, he seems to have forgotten the doctrine he has just delivered to his class, for he says, "It is now generally conceded, and it is a proposition clearly demonstrable, that what is termed caries in the teeth, is nothing more or less than a chemical decomposition of the teeth, produced by many substances which are frequently brought in contact with them, and which are capable of *dissolving the enamel in a few hours*, and that the most destructive, as a class, are acids, either directly applied, or generated from food."

Now, if all this is true, then the whole therapeutical qualifications of the Dental student is very simple, and the remedy easily obtained and applied, which will preserve the teeth in perfect health. Cleanliness and a weak solution of soda is all that would be required. But the Professor may reply to us, that the medicinal treatment is required in cases where this chemical decomposition has penetrated to the dental nerve, producing active inflammation in that highly sensitive part. But, in such cases, what is the practice of the Professor and "other eminent Dentists?" is it a medicinal course of treatment, with a view of saving the tooth, or is it *extract*, which saves the necessity of any therapeutical skill. If we have been correctly informed, *extracting*, in such cases, is their general plan of treatment, particularly so, if the tooth is a molar. And if such is their practice, where is the necessity for a *therapeutical qualification*—for teeth seldom produce general irritation of the nervous system, unless the disease has penetrated to the dental nerve, and teeth in this condition the Professor removes. It is true that teeth may be chemically acted upon by acids and other substances, but to support the doctrine, that caries is never produced only by the chemical decomposition of the tooth, and that this decomposition is the only result of acids generated in the mouth, or from the small quantity of acids taken with our food, will, we opine, require something more than the mere assertion of the Professor.

If "acids" alone produce caries, its action would not be confined to one small point, as

is most commonly the case in the commencement of the disease, but its action would be over the whole surface of the tooth. But does our experience prove that such a condition of the teeth is often found. We believe not. But it is common to find teeth attacked with caries on the grinding surface of their crowns, when they have always been kept free from all impurities.

Now, certainly, in such cases, the caries could not be the result of acids.

Hence, his inquiry should be directed to the investigation of every influence which can be supposed to have a bearing upon the diseases of this specific class of organs.

His duty stops not here. It is not only his business to weigh the influence which other organs may exert upon the teeth, but he is also to investigate how far the diseases to which the teeth and mouth are subject, may in turn, derange the other portions of the system. His field then, is by no means a contracted one. The dental student is not only to study these particular organs, their immediate connections their specific diseases, and their peculiarities; but, if the view I have taken be a correct one, he should become acquainted with the laws of the entire system, together with those of each organ, their mutual connections, and dependencies.

Again, if this view of the subject be correct, no other facts or considerations need be presented, to exhibit most clearly the necessity of a knowledge of general anatomy, which alone can give an adequate idea of the structure and the relative arrangement of the various parts constituting the human frame; even allowing that any organ might be studied, isolated from the rest.

But let us see what progress the dental student would make, in comprehending those parts belonging strictly to the teeth.

For example, on examining the structure of a tooth, he finds it endowed with a nerve, and is disposed to learn its origin and office. He does not pursue his investigation far, before he discovers that it is not an independent nerve, but is simply a branch of another. If he pursues his investigation still farther, he discovers that this last is also a branch of a primary nerve. If he still continue his search, he will find that the original nerve has its origin in the brain; that it gives off first three main branches and that these give rise to more than twenty other branches or twigs, distributed to different parts, one of which supplies the teeth.

He finds, too, that all the remaining branches of this original nerve go to supply other parts of the head, neck and face. Now, on the supposition that he started with the determination of confining his investigation to this dental nerve, he will find himself most awkwardly situated—in a labyrinth which he little anticipated.

Should he decide to pursue this investiga-

tion, and trace the connection of these different parts, thus established, and study the various sympathies which must necessarily exist between them, whether in a healthy or diseased state, will it be said he has travelled out of his legitimate sphere?

But he is not yet at the end of his difficulties. If he examine more minutely still, he will find this original nerve, either directly or indirectly, connected with every other nerve in the human frame.

If such be the fact, how clear is the futility of attempting to study any part, as isolated from the rest of the system! As well might one attempt to comprehend a complicated piece of machinery, by an examination of a single wheel.

"All are but parts of one stupendous whole," and although every tissue and organ has some peculiarity, by which it is distinguished from all the rest, yet the condition of each is modified by its connections with other parts.

How essential is it then, for the dental, as well as the student in every other department of the healing art, to be able to trace these connections of structure, which he can only do, by a knowledge of GENERAL ANATOMY.

Next in importance to the study of the structure, and relative position of the different organs, is that of their office, or functions. These subjects are embraced under *physiology* and they constitute a field, most interesting to the dental surgeon.

I have spoken of the structural connections of the different organs of the system, and I may remark that a comprehension of these, is chiefly important, as the basis of a knowledge of their functional relations.

As the anatomist finds it impossible to comprehend any organ singly, in consequence of its connection with others, so the physiologist finds it equally impracticable to study, disconnectedly, the functions of a single organ.

The functions of the human system, the harmonious action of which constitutes health, have been properly compared to a circle; beginning where we may, we find each part intimately connected with another, essential to the whole; and in whatever direction we may pursue our examination, we ultimately arrive at the starting point. If, for instance, we commence our investigation at the *brain*, we find this dependant upon the heart and lungs for its supply of arterial blood; if upon the *heart*, this is dependant upon the brain for nervous energy, and upon the lungs to purify its blood; if upon the *lungs*, we find that their action cannot be sustained without both the influence of the nervous system, and the action of the heart to propel through them the vital fluid, necessary for the support of the whole.

Again, each of these is dependant on the *stomach* for its appropriate nourishment, while the stomach in turn requires their combined agency in order to perform properly its functions.

A similar description applies to every organ of the human system.

But let us examine a little more in detail some of the different organs and their physiolo-



gical relations, and, in doing this, we can find no more appropriate starting point, than the organs of mastication.

Among these we find the *teeth*, which, in their perfect state, are exactly adapted to the comminution of the food, while the muscles of the lips, cheeks, and tongue, act as assistants in keeping the food in the best situation, to be most readily acted upon. That it may be properly moistened and prepared for the stomach, a suit of glands are provided to secrete a fluid for the purpose, and the stimulus of the food during mastication excites them to action and lastly, by the action of the tongue and the muscles of the throat, the food thus prepared is propelled to the stomach.

But the food, on reaching the stomach, is by no means prepared to furnish nutriment to the system. To meet this exigency, other organs are brought into play, and it undergoes other processes, till finally the entire nutriment is contained is carried into, and becomes a part of the blood of the system.

But let us, for a moment, return and inquire whether the dentist is interested in thus pursuing this investigation.

We see in this description a most beautiful connection of organs and functions, and how each, while in a healthy state, conspires by assisting the others to accomplish the same ultimate result.—But let either of these connected links in the chain be impaired or broken, and what is the result? Imperfection, if not disease, pervades the whole.

Let the different muscles, brought into use during mastication, cease to act, and the teeth, however perfect in themselves, would become useless; let the teeth be wanting or imperfect, and the food could neither be perfect comminuted nor insalivated; let, in short, mastication as a whole be imperfect, and digestion must necessarily partake of the imperfection, and the stomach sooner or later, become impaired.

The process of digestion does not consist simply in separating the nutritive portions of the food, as received into the stomach, but rather in an actual decomposition of this food—manufacturing from a heterogeneous, a homogeneous substance, adapted to the wants of the system.

Hence the evils of indigestion are not simply negative, by giving rise to a want of nutrition, but, by imperfect assimilation, improper substances are carried into the circulation, exerting a morbid influence on every portion of the system. But the stomach is not the only if it is indeed the chief avenue through which a diseased denture imparts disease to the general system.

Food is not more essential to the maintenance of health and life than pure air. This must also pass through the mouth before it reaches the lungs.

The professor has indeed given us something new—in theory, at least—for we do not now recollect ever seeing this theory advanced by any other medical or dental

writer, that the *air* “*must pass through the mouth before it reaches the lungs.*”

According to our own experience and observations, most of the air passes through the *nose*, on its way to the lungs, except in cases where the passage may be closed by a *polypus*. We are disposed to believe that the person, who may be conversing with an individual having a mouth full of decayed teeth, and which are brushed only once a quarter, is the greatest sufferer—for it is common for the air to pass into the lungs by the way of the nose, and out by the way of the mouth. Now, if the Professor does not believe what we have said on this subject, let him try the “experiment” of an animated conversation, face to face, with an individual having a mouth full of such teeth as we have described above.

Now, when you know that at every breath about eight per cent. of all the air inhaled, is actually absorbed by the blood, and know, too, that, in its passage to the lungs, it is necessarily contaminated by a diseased mouth and teeth, often to an extent insupportable to a second person, does it not most forcibly exhibit an important connection between the state of the mouth, and the health of every organ of the system, through the medium of respiration?

Again, it is a principle well settled in medicine, that any constant source of local irritation, must inevitably, sooner or later, radiate its influence throughout the whole nervous system, and, in every case where the nerves are constitutionally or otherwise weak, it must finally result in general derangement.

Nor is it necessary that this irritation amount to pain, in order to have the result certain, or sometimes even fatal. I need not add, that no individual ever had a diseased denture, without such a source of local irritation.

But I cannot now pursue these illustrations farther, nor is this necessary to make it apparent that physiological science is necessary to the accomplished dental surgeon.

Anatomy and physiology are both strictly elementary branches of general medical science, and, when studied or taught in their purity, pertain simply to the development of structure, relative position, and the offices of the different organs of the human system in a healthy state.

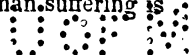
(To be Continued.)

INHALATION OF ETHER.

BY J. MASON WARREN, M.D.

One of the Surgeons of the Mass. General Hospital.

The practical importance of this valuable discovery for the relief of human suffering is



now very generally admitted, and its use for this purpose becoming more extensive both at home and abroad. It therefore is a subject of much interest to determine, by the observation of its effects in a number of persons of different ages, sexes and temperaments, to what class of patients it is applicable, when its use should be desisted from, and, also, what length of time the inhalation may be continued. This latter point requires especially to be settled, as it was a question at first, whether, in surgical operations, requiring for their performance a longer space of time than six or seven minutes, the suffering could be annihilated. Another question of interest also presented itself to the mind of the surgeon, which was, whether, in operations of much delicacy, the violent muscular movements, which were occasionally observed, or the sudden starts consequent on a return to consciousness, would not interfere with the safe prosecution of the dissection.

These considerations have led me to draw up an account of the history of a number of cases in surgical practice under my observation since the first introduction of this remedy, which will assist in solving some of the above-mentioned propositions. For the sake of convenience I shall attempt some arrangement of these cases, according to the age and constitutional effects. Some of them I shall give more in detail than is absolutely necessary to illustrate the effects of the ether, on account of their interest in a surgical point of view. The first cases will be those of children.

CASE I.—This was a fine, handsome boy, 12 years of age, in vigorous health. He was brought to me by his parents, on account of a scar on the upper lip, about an inch in length, which had been caused by a contusion. The red part of the lip had united irregularly, and produced considerable deformity. The operation necessary for the relief of this accident, was likely to be painful, protracted, and to require much delicacy. It was important, therefore, that the patient should be kept in the most perfect state of quietude. This was not likely to be the case, as he stoutly resisted the idea of submitting to any suffering. His parents were

therefore very desirous for him to take the ether.

No surgical operations had thus far been recorded of the application of the inhalation to subjects of this age, and I had therefore some hesitation in advising its use; especially, as I had learned from Dr. Morton, that the first time he administered it to a child it was followed by vomiting and long-continued faintness. On a subsequent interview with Dr. M., and also with Dr. Keep, I learned that both these gentlemen had afterwards used it on children as young as eleven years, with the most gratifying results, and in no case with any bad consequences. I therefore determined to employ it in the present instance, and the patient readily gave his consent to the operation, when he was informed that he was to be spared all suffering.

The ether was administered by Dr. Morton, and after a few minutes passed in making the patient comprehend the proper method of inhaling, he gradually began to breathe it regularly, and in a few minutes was under its influence. At the commencement of the process the eyes were highly injected with blood, the face flushed, and the pulse accelerated, but as the influence of the ether increased, the pulse gradually declined, and the color left the cheeks.

During the operation, which consisted in dissecting out the cicatrix from the lip, he remained immovable, not the slightest shrinking or muscular action of any kind being perceptible. He recovered from this insensible state while the edges of the wound were being adjusted and the sutures inserted, but did not make any complaint. The pulse was now found to be slow (say sixty in the minute), the pupils dilated. He vomited a little and was faint for half an hour, but when I saw him in the afternoon he had quite recovered from the effects of the application.

CASE II.—I assisted Dr. Brown in an operation for club-foot, on a little timid, delicate boy, 11 years of age. All our entreaties failed to induce him to inhale the ether from the ordinary apparatus. I finally wet a couple of sponges with ether, and placed them near his mouth. Gradually he became animated, and seemed to be much gratified

with the taste. The face became flushed; he said he felt dizzy; his eyelids closed, and he became almost insensible.

At this period it was thought necessary to remove him to another part of the room, on account of the light. The movement roused him so much, that he went through the operation with the appearance of a person in a bad dream. He afterwards said, that he thought himself seized by robbers, carried into a wood, and had his heels pricked.

This case is mentioned to show, that a sponge may be substituted for the inhaling apparatus, when the ether is applied to a child, who is too young to comprehend the ordinary process. Dr. J. C. Warren informs me, that for a little irritable boy at the Hospital, affected with a very painful disease of the hip-joint, who every night required the use of an opiate, he directed a sponge dipped in ether to be laid on his pillow. The effect of this application was to produce sleep in three minutes. The patient awoke from its influence in half an hour, then composed himself again, and remained quiet until morning.

In the three following cases the patients were entirely free from suffering, although quite conscious of what was going on during nearly the whole of their respective operations.

CASE III.—Mr. L., a gentleman remarkable for his powerful muscular development, who required the removal of an encysted tumor from the arm, inhaled the ether about three minutes, and appeared to be quite under its influence. He soon began to recover his speech, and during the operation described the details of a previous one he had undergone. He was perfectly conscious of what was going on, but bore the cutting without shrinking, and, as he subsequently said, without feeling anything which could be called pain. A slight degree of exhilaration was experienced for about ten minutes afterwards.

CASE IV.—Mr. Hathaway, 25 years of age, had the flesh jammed off from the middle finger of the right hand five months since. The wound healed slowly, and left the bone covered by a thin and tense cicatrix. The effect of this was to produce such

an extreme degree of sensibility of the part, as to render the hand almost useless, in addition to which, he was subject to attacks of severe neuralgia. I advised him to have an incision made through the cicatrix (which probably compressed the digital nerves against the bone,) the skin dissected off, and the end of the bone removed.

The ethereal inhalation was administered by Dr. Morton, and in five minutes he became insensible. Very soon after the operation had commenced, he recovered his consciousness sufficiently to enquire how we were getting on, requesting that we should not hurry, but that the operation should be done thoroughly. This being completed and the wound dressed, he said, that he had been well aware during the greater portion of the time of what we were doing, but felt no more pain than he would have experienced from an ordinary examination of the part. The pupils during the action of the ether on the system were dilated, and the pulse slower than natural. He had no subsequent ill effects from it, and returned home in about two weeks, quite free from his neuralgic troubles.

CASE V.—Rev. Mr. S., from Nova Scotia, consulted me in February for a tumor of the neck, about the size of an egg, a little under and to the inside of the sterno-mastoid muscle, on a line with the larynx. It gave a semi-elastic sensation to the touch, and at first seemed to have a strong pulsation, but on a more critical examination this was evidently shown to be communicated to it from the carotid artery, which was directly beneath.

This tumour appeared about nine months since, in the course of a severe influenza; it very rapidly attained its present size, and in spite of all remedies has not shown any disposition to diminish. By a surgeon who had previously examined the patient, it was supposed to be of the aneurismal character. I determined to make a careful incision down to the tumour, ascertain its nature, and if it proved to be encysted, as I supposed, to open it, evacuate its contents, and dissect out the sac.

This operation was done in the presence of Drs. Parkman, Sargent, Briggs and J. C.

Warren. Mr. S. having respired the ether for five minutes, appeared insensible. An incision, about three inches in length, was made along the inner edge of the sternomastoid muscle. The dissection was prosecuted through the platysma and the layers of the superficial fascia, until the tumor was fairly exposed: it proved to be encysted. The fluid contents were next evacuated. Then passing my finger into the sac, I could feel the carotid artery in bold relief running along its whole posterior portion. The sac was carefully dissected from the sheath of the vessels, and the operation terminated with but little hæmorrhage.

In the course of the operation the patient spoke, and remarked, that he knew every thing that was going on, but felt no pain. He asked if it would not be well to give him more ether; this request, he afterwards said, was from fear that he might have pain as he returned to his natural feelings.

He experienced no ill effects from the inhalation, and had recovered from the wound in about fourteen days.

In the three following cases the inhalation seemed to produce either a partial, or entire state of asphyxia.

CASE VII.—Mary Muldran, aged 58, a widow from Ireland, presented herself to me in the latter part of November, 1846, with a malignant disease of the upper jaw. I referred her to the Massachusetts General Hospital, where she entered on December 2d, and gave the following history of herself.

Eight weeks since she perceived a hardness and slight pain around the alveolus of the left upper canine tooth, which had been removed some time before. A few days afterwards a small pustule appeared at this point, which she pricked with a pin. A fungous tumour very shortly made its appearance, which has increased rapidly since, and within the last week has nearly doubled in size.

There is now a fungous tumour of the size of a walnut attached to the alveolus; it is of a mottled chocolate color. The portion opposed to the lower jaw is slightly ul-

cerated, and from this spot there has once or twice been a slight hæmorrhage. The tumor has also been lately the seat of lacerating pains.

The operation was performed by Dr. J. C. Warren, the patient being first brought under the influence of sulphuric ether administered by Dr. Morton. An incision was made through the cheek, and the soft parts dissected, so as to uncover the left upper maxillary bone. The cutting forceps were then applied on each side of the tumor; the two lateral incisions, united by a transverse, or horizontal incision, removed the whole of the disease. The antrum was laid open. The hæmorrhage was great, but finally restrained by the actual cautery. This account is condensed from the books of the Hospital.

The effects of the inhalation in this case were peculiar. Supporting the head of the patient during the operation, and after she was under the influence of the ether, I found her countenance to be livid, the hands to be slightly clenched, and the blood partially settled about the fingers. The respiratory process was but imperfectly performed, and the blood which ran down the throat seemed to pass unobstructed into the lungs, or with but slight resistance from the epiglottis. As soon as was permitted by the termination of the operation, which was very rapidly performed, I threw the head forwards, so as to prevent the blood from passing down the throat. The natural respiration very shortly afterwards returned, and the patient recovered her consciousness without further difficulty. She said that she had been entirely free from pain, and had not been aware of the steps of the operation.

This woman came to me a few days since, quite recovered, and free from any traces of disease. She had been discharged well from the Hospital on December 24th.—*Bost. Med. & Surg. Jour.*

[To be Continued.]

Two Cases of Croup cured by Cauterizing the Larynx with a Solution of Nitrate of Silver.

By WM. N. BLAKEMAN, M. D.

On the 10th Nov., 1846, I was called to see a child of Mr. A., about two years old, very fat, large of his age, and of leucophlegmatic temperament. I first saw him at 10 o'clock in the evening, five hours after the commencement of the disease, with a hot, dry skin, quick pulse, great restlessness, laborious breathing, and the hoarse barking or crowing sound peculiar to croup. The family had, previous to my arrival, given freely of Coxe's hive syrup.

I gave tinct. sang., comp. syrup scillæ, with pulv. ipecac., which caused vomiting, but no relief to the patient. At 3 o'clock on the morning of the 11th, I gave six grains prot. chlor. hyd., and after waiting two hours, began with the above mixture, to which I added five grains of tart. antim.; more free vomiting was produced, and a copious discharge from the bowels, at 8 o'clock, but without any mitigation of a single symptom. I then stopped using the above mixture, and gave per-sulph. of mer., in doses of qu. grain, the second dose to be given in half an hour after the first, and then at intervals of an hour. The child drank freely of warm water, and vomited some after each repetition of the medicine, but none of that peculiar, heavy, glairy substance, which is the secretion of this specific inflammation. At 5 o'clock, P. M., the remedies having done no good, and with the symptoms of suffocation becoming alarming, I resolved to try the effect of cauterizing the larynx with a solution of nitrate of silver, a drachm to an ounce of water.

The application was somewhat difficult, and the dyspnœa very great. A quantity of the thick tenacious substance was brought away by the sponge, &c., a large quantity by vomiting, which followed.

After waiting ten minutes, I made a second application, bringing away a larger quantity of membranous matter on the sponge than before, and a much more copious discharge accompanied the vomiting, caused by the application.

The disease now seemed to be arrested, as very great relief was apparent to all the family. The breathing was less laborious, the crowing sound less sharp, and the child more quiet.

I saw the boy at half-past 10 o'clock, same evening, five hours and a half after the first application; he had improved in all the symptoms, breathing decidedly better, the barking sound heard only at intervals, and he had asked for drink.

I now made a third application of the same solution, which brought, as before, on the sponge, some thick tenacious matter differing from the first in being of a yellow color. The boy vomited *several* times after *this* application, each time throwing off a large quantity of the same yellow-colored, thick substance, so tough that it could be raised from the bowl by the fingers. Soon after the vomiting ceased the child was so much better he fell asleep, in which situation I left him, with directions to be called if required before morning.

12th, 7 o'clock, A. M., I found him sitting on the bed calling for food; he had slept pretty well, asking for drink occasionally, a slight hoarseness left, for which he required no further treatment.

CASE II.—I was called on the 20th of January, at 12 o'clock at night, to see a boy six years old, of sanguine temperament, and florid complexion, who was taken about two hours before with croup. The pulse quick, skin hot and dry, the breathing hurried and difficult, the crowing noise loud, and the child very restless. I determined that the remedy used last in the former case should be first in this. I made two applications of the same solution used in the former case. Some tough phlegm came away on the sponge, and free vomiting followed, which relieved the patient so that he soon fell asleep.

21st, 7 o'clock, A. M. The boy has slept well all night, and says he is quite well, only a little hoarse.—*N. Y. Med. & Surg. Rep.*

STATISTICS OF MEDICAL COLLEGES IN THE UNITED STATES FOR SESSION OF 1846-47.—*University of Pennsylvania*.—Students, 411.

Medical Department of Transylvania University.—The number of students was 205; graduates, 62; two were admitted to an ad eundem degree, and the honorary degree was given to four, making a total of 68.

University of Louisville.—Number of students, 354.

Memphis Medical College.—Number of students, 55.

Medical College of Ohio.—Number of students, 170.

Western Reserve College.—Number of students, 216.

Yale College.—Graduates, 28.

Willoughby Medical College.—Number of students, 101; number of graduates, 38.

Castleton Medical College.—Number of students in November last was 131, of whom 42 received the degree of M. D.

TREATMENT OF ANEURISM BY COMPRESSION.—Dr. Bellingham gives a decided preference to the treatment of aneurism by compression, for the following reasons: 1st. That the mode in which consolidation of the aneurism is brought about by compression, is exactly the same as that in which a natural or spontaneous cure occurs. 2d. Because, when a cure is effected by compression, the vessel is obliterated merely at the site of the aneurism; whereas, when a ligature is applied in the usual situation, at some distance from the tumor, the artery is obliterated, both at the seat of the ligature and at the seat of the aneurism. He looks upon the treatment by compression as safer than that of ligature.—*London Med. Gaz.*

TREATMENT OF EPISTAXIS BY INSUFFLATIONS OF ALUM.—When hæmorrhage from the nasal cavities assumes a dangerous aspect, recourse is generally had to plugging, a measure both inconvenient and painful. M. Lecluyse has successfully employed means far more simple, and at the same time, according to his own account, more certain—namely, the insufflation, by means of a quill, of equal parts of powdered gum arabic and alum. In one case this succeeded after three repetitions; other means, and

plugging among them, having entirely failed.—*Gazette des Hôpitaux*.

PRESERVATIVE AGAINST SCARS IN VARIOLOID.—M. Thielman speaks in the highest terms of the following topical application, and says that by its use, large, confluent, and inflamed pustules of the face and eyelids, have promptly dried up, without leaving any traces:

R. Bi-Chloride of Mercury, gr. i.

Distilled water, oz. vi.

Laudanum of Sydenham, dr. i.

M. S. A.—To be applied once a day by means of compress.—*Journal de Médecine*.

A SPOTTED CHILD.—A foundling child was brought to the New York Alms House on Saturday, April 3rd. It was a little girl, about sixteen months of age. About one half of its body was of a fair complexion and the remainder of a rich copper color, and the dark spots were all covered with a long white hair. In the centre of its forehead was a round dark spot, and the same hue covered the breast and legs.—*Med. Rep.*

We desire to call the attention of the Dental profession to the introductory lecture of Professor Westcott, delivered before the class of the Baltimore College of Dental Surgery, the publication of which we have commenced in this Number, with remarks. It was our first intention to public only a few extracts—but, on reflection, we believe that we could not do justice to the Professor, without giving the lecture entire.

REMOVAL.—The Editor has removed from 736 Broadway to 29 Bond-street.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 29 Bond Street, New York; or to Asahel Jones' General Agent, 263 Broadway.

Country Subscribers can have the Journal sent to them by mail, on the above terms.

All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

NEW YORK DENTAL-RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol. 1.

JUNE 1, 1847.

No. 10.

PROFESSOR WESTCOTT'S LECTURE

Continued from page 103.

The Professor has labored hard to prove that a Dental College on the plan of the Baltimore, possesses superior advantages over the Medical, to prepare young men to practice Dental Surgery, even with a chair of Dental Surgery added. But we think that he has wholly failed to do so. No one doubts but that much more practical knowledge can be obtained at the Baltimore Dental College than in our Medical, without a chair of Dental Surgery; but let such a chair be filled, by a competent professor, and then according to Professor Westcott's own showing the Dental student would gain much more knowledge in the Medical, than in the Dental School. The Professor in trying to prove that greater advantages are to be found in the Baltimore Dental College than in our Medical, draws an impartial comparison between the two as they now exist, the Medical having no professor of Dental Surgery. But if the Dental student must qualify himself in all the branches of science, which the Professor believes indispensable for a well educated Dentist; then truly, he will stand in need of all of the instruction given in our best Medical Schools for the Professor says, "But to command fully every resource which a high cultivation of the science, and art of Dentistry affords, a more intimate and extensive acquaintance with every collateral science and art is requisite, than in prosecution of any other calling. There is no science connected with material substances, which may not

be profitably consulted by the Dental Surgeon; nor art which may not directly or indirectly tend him aid."

The Professor brings up as an evidence of the inadequacy of Medical Colleges to give a thorough Dental education, the ignorance of many physicians in the science and art of Dental Surgery. But it is this very evil which we wish to remove, and we know of no plan that would ensure success, like the one to appoint a Professor of Dental Surgery in all of our Medical Colleges.

After dwelling at great length on the importance of a pathological and therapeutical qualification of the Dental student, he informs us that a learned professor in one of our Medical Colleges committed a great error in "supposing that caries of the teeth originated from an inflammation of the bony structure, and that caries have uniformly commenced internally, and of course was independant of external agents."

There is no doubt but that the professor of surgery is right in his diagnosis, whether caries attacks the teeth externally or internally, and Professor Westcott fully establishes the fact, when he says, speaking of the difficulty of many operations upon the teeth, "that the operation of filling is to be performed in the mouth upon a *living SENSITIVE tooth*," the SENSITIVENESS of the tooth clearly proves the presence of inflammation.

I will next invite your attention to CHEMISTRY, and to the brief consideration of its applications to dental surgery.

This science, although taught in our medical colleges, as an elementary branch of general

medicine, is by no means limited in its applications or its resources.

There is perhaps no single science, which has contributed so much to the perfection of all other sciences, as well as the arts, or which has contributed so much to the melioration of the condition of the human race, as has chemistry.

If the chemist has not succeeded in finding the philosopher's stone, which could *directly* transmute into gold the baser metals, the application of its principles, to the various arts connected with them, has certainly resulted in a golden reward. Did the occasion permit, it would be interesting to trace its connections with every art and science, where it has contributed to enhance the wealth, the comfort, and well being of individuals and nations; but it is proper that I should confine myself, at this time, principally to the consideration of it as connected with a single department, dental surgery. Chemistry has a most extensive application to general medical science.

It has furnished most important lights to guide the physiologist in his researches, and has solved many problems in this department, which, but for its aid, would forever have remained inexplicable.

Modern chemistry has become the basis of *materia medica*; not only adding immensely to the former catalogue of remedies, but it has refined and rendered definite, both in composition and effect, those which hitherto composed it.

The medical jurist, by its aid, has been enabled in a thousand instances to decide whether crime or disease had been the agent in bringing death upon a fellow being; and where the former was reasonably suspected, or traced, it has often pointed out an effectual antidote.

But the kind and judicious counsels of chemical science, do not stop here.

Often when disease is racking the whole frame, when organ after organ is yielding under its influence, and when it would seem that the next moment all must bow under its sway, chemistry, by an analysis of some morbid secretion, may point to the organ most implicated, and hence to the remedial agent, which should be employed. Such are some of the applications of chemistry to general medical science. But to the *dental surgeon*, the aid of chemistry is still more available.

So far as medical science has contributed to the perfection of his specific branch, just so far is he indebted to chemistry as *its* auxiliary. Hence the dental surgeon is indirectly indebted to chemistry for all her donations to general medicine. But dental surgery is *directly* far more indebted to chemistry, than is any other department of the healing art; for notwithstanding, as I have already stated, general medicine owes much to chemistry for many of its perfections, yet it is nevertheless true that conclusions, based strictly upon the laws of affinity, as applied to highly vitalized parts, are often fallacious.

The laws of vitality are wholly opposed to those of chemical affinity, and the former doubtless always modify, and often wholly

counteract the latter. These two principles are at perpetual war with each other. While health remains, destructive affinity is apparently dormant, but no sooner are the powers of vitality weakened, than chemical affinity begins to tyrannize over her receding foe; and the instant the latter relinquishes the field, the former asserts her entire dominion, and dissolves into its original elements, the citadel no longer protected by the force of vitality. By virtue of this principle, we find, for example, that the gastric juice, which readily dissolves the most firm animal tissues when deprived of life, has no effect upon the stomach when in a healthy state; an example of the entire suspension of affinity by the force of vitality.

If these observations are true, it must follow, that the physician, in order to calculate with any degree of certainty the results of remedies, as based on chemical laws, must constantly take into account the modifying influence of vitality.

But this is a field of investigation greatly deficient in correct data, so much so, that many have been led to discard, altogether, all chemical theories, as applied to the living system.

But the application of chemistry to dental surgery is wholly freed from all this ambiguity; and this is the only department of the healing art, where the laws of affinity can be safely relied upon, and where they are not even modified by the living principle.

This view of the subject is, of course, confined to the teeth themselves; and mainly to their external covering, or the enamel which, with reference to chemical affinity, may be regarded strictly an inorganic substance. In all our observations upon the teeth, we should constantly keep in view the two different structures which compose them: the bone and the enamel. The bony structure composes much the greater portion of the tooth, and possesses vitality in a feeble degree—is endowed with blood vessels and nerves, and is doubtless, to some slight extent, capable of resisting chemical affinity.

*This structure is covered by a substance, differing from it very materially both in composition and organization. The latter which is the enamel, contains scarcely a trace of animal matter, and is neither endowed with blood vessels nor nerves, nor does it offer the slightest resistance to the action of chemical agents.

It is composed almost wholly of different salts of lime, and is designed as a protection to the bony structure. When this covering is destroyed by caries, it uniformly results in the destruction of the whole tooth; no portion of which is capable of self-restoration, as is every tissue possessed of any considerable degree of vitality.

After the simple statement of these few facts, it will not be hard to perceive the paramount importance of chemical knowledge to the dental surgeon. We have on the one hand the teeth, with a definite chemical constitution, and, on the other, an extensive list of articles liable to be brought in contact with them, whose chemical affinities are also unalterably fixed.

Now, to form a correct opinion, as to

whether any of these, as applied to the teeth, will prove harmless or injurious, either directly, or by the fermentation which many of them undergo in the mouth, it must be evident that a most thorough knowledge of their relative affinities is indispensable. It is now generally conceded, and it is a proposition clearly demonstrable, that what is termed caries in teeth, is nothing more or less than a chemical decomposition of the teeth; and when we reflect that there are many substances which are frequently brought in contact with them, which are capable of dissolving the enamel in a few hours, we need not wonder that their destruction is so common; I may almost say so universal.

The most destructive substances as a class, are acids, either directly applied, or generated from food which is often retained till fermentation takes place.

For example, I will notice the effect as shown by actual experiment, of a few articles which are familiar to all.

Acetic acid, or common vinegar, dissolves the enamel of a tooth when exposed to its action, at blood heat, in from forty-eight to sixty hours. Citric acid, or the juice of the lemon, produces the same effect in from thirty to forty hours, and moistened raisins through the agency of tartaric acid, which they always contain, in the form of cream of tartar, produces a similar result in less than twenty-four hours. Did chemical knowledge enable us to account for or prevent, only an occasional case of caries, the claim of this science upon the dentist would be proportionately lessened; but when we reflect that caries, in all cases, is the direct result of chemical affinity of some one or more of the thousand articles, which are liable to be brought in contact with the teeth, can any one, making the slightest pretensions to skill in dental surgery, excuse himself for ignorance of chemistry?

Were it admissible farther to trespass upon your patience, I would pursue its connection with other departments of dentistry, but I shall leave this for a future occasion; simply adding that chemistry bears to dental surgery, the relation of a most faithful handmaid; ever needed, and ever ready to solve questions which must present themselves at every turn, and in every department of your practice, and which, without such aid, would ever remain inexplicable.

To the subjects thus far introduced, as claiming your particular attention, I have devoted much more time than can be bestowed upon the remaining branches of medical science; more perhaps than the occasion demands.

My only apology lies in their extent and paramount importance as elementary branches both of general medicine and dental surgery.

Not even an intelligible definition of disease can be given, without presupposing some knowledge of the *healthy structure and functions* of the different organs, nor can the cause of their derangement be successfully traced, or remedial agents be safely and unerringly applied, without a practical knowledge of the laws of affinity.

But as important as are these elementary

branches, they are of little avail, either to the physician or dentist, unless the principles to which I have referred, and the rules deducible therefrom, be applied to the study of disease, and the appropriate remedies.

This introduces two other branches of medical science, *pathology* and *therapeutics*: the former of which relates to the study of organs under disease, and the latter to the application of remedies. It is needless to observe that these two departments are inseparable. Nor need much time be spent in exhibiting their importance to the dental student, after having shown the anatomical and physiological relations, which the dental organs bear to the rest of the system. The study of anatomy and physiology would enable you to discover the existence of disease, by giving you a standard of health, both in structure and in function; and the principles which these branches develop, may show you that diseased action might and probably would, be transferred from one organ to another, but neither would instruct you as to the nature of the disease in question, nor of the precise organ or organs which would suffer most by sympathy, nor yet of the remedies to be applied. These inquiries belong to pathology and therapeutics. They are subjects, with the general principle of which the dentist should be familiar; and especially with their application to his specific department. I have now enumerated those branches of medical science, most important to the dental surgeon, and have endeavored to set forth some of the many reasons why they should be faithfully investigated. But are not all these branches faithfully taught in our MEDICAL SCHOOLS? and if so, where is the necessity of dental colleges? If it be a fact that the elementary branches of medicine are necessary to the well educated dentist, and that the kind of attention which these receive, at our medical schools, is well calculated to impart to the student in dentistry *practical instructions*, then have I proved too much for my purpose, and many of you have made unnecessary sacrifices to secure the advantages of a dental college, when a medical college, perhaps in your immediate vicinity, would have served you as well. This brings us back to a direct examination of the question, with which we started, viz: do dental colleges possess peculiar advantages over any other means of securing a dental education?

This is an important question—important to you and the public, whom you are preparing to serve, and on the decision of which, depends the prosperity, if not the continued existence, of this and similar institutions.

In this utilitarian age, no institution can long exist, unless the wants of the community demand it, and unless those wants are better served than at institutions of long standing.

Although I can look to one of our best medical colleges, as my *alma mater*, and although, hence, my prejudices have all been in this channel; and, while I regard the elementary branches of medical science indispensable to the dentist, yet, after a thorough examination of the subject, I am fully prepared to take the position, that the instruction given in medical

colleges, though well adapted to the purpose for which it is given, is by no means calculated to impart to the dental student that information which he most needs, in order to insure him success in practice.

It would by no means necessarily follow, that, because two sciences or arts were based upon the same elementary facts and principles, the same course of instruction would be adapted to both. Nay, if their applications were different, it would follow that, to prepare students to practice each respectively, the course of instruction must be different.

It is but a few years since agriculture has been taught or practised upon scientific principles; yet every principle upon which it depends, has been familiar to the *general chemist* for more than half a century.

Mr. Liebig, whose researches have shed such light upon organic chemistry, and who has wrought such great changes in agriculture, by no means discovered the principles upon which this new science is based. These had been taught by every professor, and learned by the student in general chemistry, for the last fifty years. Mr. Liebig's merit consists chiefly, if not wholly, in applying principles, already known, in a new way, or to new objects. But the result has been no less wonderful; and the fact that his discoveries have been confined to *new applications*, rather than new principles, detracts nothing from the honor due him.

Now, which of you, wishing to become a scientific farmer, would apply for instruction to the general chemist, who, perhaps, is ignorant of the specific applications of the science in which you were most interested, and whose applications were dissipated among the thousand arts and sciences, which are more or less dependent upon chemical principles.

It is easy to see the absurdity of such a course, were it possible to secure the instructions of those specially skilled in this department, and whose every application of the general principles, which are as perfectly taught as by the general chemist, is directed to the specific end you have in view. Much less would you apply to one for instruction, where every application of general principles was to be made in a channel calculated directly to *divert* your mind from the chief object of your pursuit. Again, were it your object to pursue chemistry as the basis of some of the arts, having no connexion with agriculture, as the art of dyeing, or the improvement of steam power, or metallurgy, you would by no means place yourself under the tuition of Mr. Liebig, but, on the contrary, you would seek that course of instruction where the principles, as they were presented, would be applied, as far as possible, to the subject in which you were specially interested.

The same remark will apply to the study of every science, with reference to its practical applications.

You have, doubtless, already anticipated me, in the application I am about to make of these observations. They clearly exhibit the impolicy, if not the absurdity, of pursuing any department of art or science, in those institutions where every application which is made of the

principles taught, is directed to ends not consonant to the *direct* object of your pursuit. But let us make a more direct application of these observations to our subject. If we examine the different branches of medical science, as taught in our medical colleges, we shall perceive that quite as great a disparity exists between dental surgery and general medicine, in their practical applications, as there is between chemistry as a general science, and agricultural chemistry.

For example, the professor of anatomy exhibits the different parts, their structure, and relative position. But, mark you, his applications are, almost without exception, to subjects in which the dental student is, to say the least, not directly interested. He exhibits one part as involving some great surgical operation; another, as being of peculiar interest in the treatment of this disease, and another of that. Sometimes he is imparting special instruction to the general pathologist, sometimes to the general practitioner, and again, to the general surgeon. In short, he applies his instruction to every branch, *except dental surgery*.

From the chair of physiology are taught, truly, the offices and connexion of different organs; but here, too, the applications are widely variant from those which would most interest the dental surgeon. From the chair of chemistry are taught the general principles of the science, but to what are they applied? The student, from this chair, is made acquainted with many of the different articles used as remedies, and their mode of preparation. The professor, in this department, applies the general principles of his science to explain pathological phenomena, to pathology, and to show what substances are *incompatible with each other*. But from what professor of a medical college has the dental student learned the chemical compatibility or incompatibility of the various articles used for food and condiments, or as medicines, with the *teeth*?

What man, occupying this position, has marked out and described a scientific plan, by which these useful organs might escape the ravages of protracted illness; and especially of the remedies employed to effect its cure?

Examine the array of subjects comprising the course given from the chair of *theory and practice*, and how many of them will you find coming under the head of dental subjects? Of the almost endless number of diseases here discussed, fortunate is it if those connected with the teeth receive a passing notice.

If you will examine the subjects discussed from the chair of general surgery, you will find the same conclusion will hold good. True, the discussion of any disease must often exhibit facts and principles, in which every student, of any branch of the healing art, is interested; but the mere *incidental* exhibition of principles, unconnected with direct application, is not what the dental student should seek, or be satisfied with, in the course of instruction which is to prepare him for the exercise of a responsible and difficult profession.

It has been the business of scientific dental surgeons, from the time of Hunter down to the

present, to cull from general medical science those facts and principles having a direct bearing upon this particular branch, and to arrange them into a new and specific science; and it is not difficult to perceive, that the dental student, who undertakes to glean from medical science, as taught at the present time in medical colleges, those facts and principles which are to constitute the basis of his practice, places himself back to a time when this was the only means from which to derive instruction.

Such are some of the objections to medical colleges, as furnishing proper instructions to the dental student, when dentistry is used as a science. But they are infinitely greater, when applied to this subject as an art.

In the practice of no art is there so great a demand for nice and extensive acquirements in mechanism, and indirectly upon the sciences upon which these different mechanic arts are founded. The various mechanical appurtenances which are used by the general surgeon, are either very simple, or are articles of commerce, found in the shop of every apothecary. If the surgeon is called upon to restore a fracture or dislocation, he employs an apparatus which has perhaps served every patient he has ever had. If he wishes to perform an operation, he has only to select the appropriate instruments, from a case containing every variety; the perfection of which has been the result of the combined ingenuity of a thousand geniuses, directed for a century to the improvement of this particular department.

Far different is it in practical dentistry. In this department, the operator is often obliged, not only to manufacture his own apparatus, but actually to invent it for a given occasion.

As an illustration, we will suppose the following case of regulating, one by no means uncommon: A child is presented, whose teeth are irregular among themselves; the circle of the upper jaw contracted, so as to be much smaller than that of the under jaw, and the latter protruding, so as to bring the front under teeth, when the mouth is closed, far forward of the corresponding ones of the upper jaw.

I need not say, that to remedy these several difficulties, requires a kind of skill not acquired or acquirable at a medical college. It is an easy matter to correct irregularities of the teeth, when only a portion of them are out of the proper circle. In this case you make a fulcrum of those in the right position, over which you can apply your levers, to bring the others in place; but where the entire circle is wrong, and especially where it is contracted, the difficulty is greatly enhanced.

The boast of Archimedes, that he would move the world, but give him a fulcrum on which to rest his lever, may be much more easily realized, than the moving of a single tooth, where there is no chance to apply to it the requisite power. But, in the case supposed, it is not only requisite to regulate the teeth among themselves, and to increase the whole circle of the upper jaw, but it is also as necessary that the position of the under jaw entire should be changed.

Now the mechanical appliances requisite to

overcome this last difficulty, constitute a still greater demand for the exercise of skill and ingenuity. Turning our attention to the field of mechanical dentistry, we shall find this no less ample, in the scope it gives for the exercise of skill, contrivance, and taste.

The dentist, in this department of his art, unlike the general surgeon, has to consult every mechanic art, and glean from them the skill without which he can make no advance; and, in the application of this skill to his peculiar art, unlike all other artisans, he is required to adjust and adapt his fabrics to living parts; and that, too, without impairing or endangering their health and safety. This remark applies particularly to the construction and insertion of artificial teeth. I might proceed to point out the particular difficulties which are involved in these operations; but the mere fact, that of all the artificial substitutes for natural teeth, which are prepared by dentists of every grade, not more than one case of ten meets fully either the expectations of the operator or patient; and, moreover, that, in a very large portion of cases, these fixtures but prove a source of annoyance, laying the foundation for the destruction of other teeth, and involving, many times, the whole mouth in disease, is sufficient to show that there are difficulties connected with them, which are neither mastered nor even appreciated by a majority of operators. But, of all the various operations connected with the teeth, that of filling or plugging them is at once by far the most important and the most difficult.

If this operation be timely and successfully performed, it supersedes the necessity of all others. The operation of plugging a tooth is not only one nice and difficult in itself considered, but the difficulties are greatly enhanced, nay, multiplied almost ad infinitum, in consequence of its being performed within the cavity of the mouth.

You are, of course, aware that there is no conservative property, strictly so speaking, in any material used for filling teeth.

The end to be gained by this operation is simply to protect the portion of the tooth already affected by caries, from the farther action of those external agents which originated it, and by whose action it is progressing.

Now, taking, in connection with these considerations, the fact that these destructive agents are almost uniformly in a fluid state, you will readily see that a filling, to be efficient in arresting decay, must be so perfectly inserted, as to be wholly impervious to these fluids.

The mere fact that a plug remains in a cavity, is no guarantee that the tooth is safe.

If a person had a valuable casket of jewels, which was to be exposed to the action of an element that would deface or destroy them, with what scrutiny would he examine the envelope, and, if he should find it imperfect, so as to endanger, or perforated, so as to expose the valued treasure, with what solicitude would he seek the hand of skill and experience to remedy the defect? Can such skill and experience then be dispensed with in filling the cavity of a tooth, where the operator has not only to attain the same end, but to do this under the

most unfavorable circumstances; where intrinsic difficulties are to be contended with, which often, of themselves, are sufficient to thwart ordinary skill and perseverance?

This operation upon the teeth is to be performed, in the cavity of the mouth, upon a living, sensitive tooth; often when the parietes of the cavity have become exceedingly frail, from the progress of the decay; not unfrequently upon the lateral surfaces of the teeth, where the space through which the cavity is to be reached, is necessarily so limited as greatly to curtail the efforts of the operator. These plugs in the teeth, as an essential quality, must be perfectly solidified throughout, making often a demand for the application of great force, to which there are many limiting circumstances. Again, they must be placed there perfectly dry, an indication, the fulfilment of which frequently constitutes one of the greatest difficulties the dentist has to contend with; as the salivary glands, by the irritation of the operation, are excited, and an extraordinary amount of saliva is thrown into the mouth during the operation. Add to the difficulties above-mentioned, those growing out of tension of the muscles of the cheek, the occult situation of cavities, the great length of time during which all these counteracting obstacles must be controlled, to say nothing of the perplexities arising from poorly prepared foil, and you will have a faint picture of some of the difficulties in the road to fame, as an operator on the teeth.

If in this operation, also, we measure the difficulties by the failures which have so generally attended it, we shall find their magnitude by no means diminished; for, of all the operations which the dentist is called upon to perform, in none have failures been half so frequent. And that this want of success has arisen from its intrinsic difficulty, is sufficiently shown by the fact, that often the same person, who is entirely successful in almost every other dental operation, has utterly failed in this. Now, which of the difficulties, as presented in this description, is the student of a medical college instructed how to overcome? Nothing can be more absurd than to suppose that a degree from such a source, however well it may have been earned, will meet the exigency. But let us interrogate experience, and inquire whether physicians, although skilful as such, have shown themselves competent to discharge the duties of a dentist. So far as my own personal observation goes, I can confidently say, that they are generally, if not uniformly, unprepared to assume such duties, not even as safe dental advisers, much less as dental operators. During my attendance upon two full courses of medical lectures, the latter with the view to qualify myself to practise dentistry, I do not remember to have heard the subject of practical dentistry alluded to but twice. On one occasion, the professor of theory and practice of medicine, in alluding to the operation of filling the teeth, gave it as his firm conviction, that *tin foil* was as good a material for this purpose as gold! and that it would always be used, were not the dentist's *pocket* consulted!!

On the other occasion, a learned professor of

surgery, in remarking upon the pathology of caries, attempted to show that the decay of the teeth always originated from an inflammation of the bony structure, and that caries, hence, uniformly commenced internally; and of course was independent of external agents. Now, I need not say that both of these opinions are wholly incompatible with correct practice. Do physicians generally, in treating chronic diseases, nervous affections, and the thousand ills consequent upon impaired digestion, as well as those affections originating in local irritation, look well to the condition of the mouth and teeth, to see whether they do not there find sufficient cause for the existing difficulty?

Again, this great lack of knowledge, or at least a right application of it, is evinced by physicians, in their total neglect of the welfare of the mouth, during the illness of their patients. How often are the most beautiful sets of teeth entirely ruined, during even a short fit of illness! Nor is it the disease to which the physician is giving his attention, that is the active agent in this destruction, but it is his remedies. This is exemplified in the careless administration of the various acid tonics, gargles, &c., and in the general neglect of those means of care and cleanliness so important, especially during illness.

But I need not particularize; suffice it to say, that few are so fortunate as to recover from any thing like protracted illness, without their teeth being either ruined, or materially injured; a result which, if it is not always attributable directly to bad management, is one which may always be avoided, by a judicious application of that knowledge, in the possession of every *well educated* dentist.

The impracticability of receiving that instruction which will impart this information, at our medical colleges, is pretty generally felt and acknowledged, and it has been proposed to supply the defect by adding a *dental chair*, to those now existing in these schools.

This proposition has been ably advocated, and it is certainly one, bearing, upon its face, much plausibility. Such a chair as an appendage to a medical college, must have for its aim, the accomplishment of one of the three following objects, viz.: Either to instruct the medical practitioner as such, or to enable the physician to append practical dentistry to his cardinal profession, or to qualify students to practice dental surgery alone.

If the first of these three objects were the only one had in view, I would most cordially approve of the project; for it is no less important to the physician than to the dentist, that he should thoroughly understand the pathology and morbid effects of the diseases of the dental apparatus, as well as the effects resulting to it from disease in other parts of the body.

Nay, more. He should be familiar with all the elements necessary to good dental *operations*, that he may be thus enabled to co-operate with the worthy portion of the dental profession in enlightening the public, and in the suppression of dental quackery.

But the establishment of such a chair, either with the view of amalgamating dental and me-

dical *practice*, or of qualifying students for practising dental surgery, as an independent profession, is a proposition, the feasibility of which admits of serious question.

It is urged by the advocates of such a chair, that it would enable the young physician to make a handsome saying from *dental practice*, by spending in this way his leisure, of which he is too apt to have abundance. But why has the young physician, fresh from the seat of medical science, so much leisure? Is it simply because he is young in years? or is it not rather because the community at large, well understand that the young graduate, in order to become a skilful practitioner of medicine, must yet devote much time to reading and observation, which he is now just prepared to do profitably?

Shall his leisure, then, be devoted to the practice of a profession, entirely unlike his primary calling? Can he take medicine in one hand and dentistry in the other, and carry both along, even with profit to himself?

This certainly would be an attempt to serve two masters, very dissimilar in the requisitions which they respectively make.

This attempt, where it has been made, has generally resulted in the abandonment of one or the other, and where this coalition has continued, I have never been so fortunate as to find the man who did justice to, much less excelled in, either.

It is, indeed, contended by many, and I may perhaps say, by a majority of our most eminent dentists, that the two departments of *dentistry*—the surgical and mechanical—should always be assigned to different hands; and that this is necessary to the attainment of great excellence in either. But if excellence in each of the departments of dental surgery, is with difficulty attained by the same individual, much less can this profession, as a whole, be regarded in the light of a mere appendage; and its different departments successfully cultivated and practised, in connection with the profession of medicines; which of itself is a subject, when confined to its legitimate limits, too extensive, to be fully comprehended and successfully practised, without an expenditure of more time and money, than can generally be devoted in this country, to the acquirement of a profession.

Whether, then, we view these two professions with reference to the magnitude of each, or with reference to their dissimilarity, we shall see that their *practice* cannot be well combined in the same individual.

The same considerations as plainly declare, that the *interests of each profession*, demand separation. I have thus far gone upon the supposition that this superadded dental chair was capable of qualifying a student for dental practice.

But this is a supposition which admits of strong doubts, if it is not wholly groundless.

I shall farther attempt to show, that the *dental student*, whose mind is wholly directed to the acquirement of dental knowledge, would be inadequately instructed by such a course; and if this be so, much less would the medical student, whose mind was mainly directed in

another channel, become qualified properly to discharge the duties of the practical dentist. I have already remarked that the course of instruction, given by each of the professors in our medical colleges, was prepared for and adapted to a specific end, one widely differing, in almost every practical detail, from dental surgery; and that every application of facts and principles which is made, is equally foreign to the object which the dental student has in view. Such a course might be profitable to the *experienced dentist*, who has already proved the great utility of these facts and principles as applied to his own profession, and who has had frequent occasion to regret his deficiency in them; but far better would it be for the *inexperienced student*, were only facts and principles exhibited. The different lectures, which were perhaps written out by the several professors in their closets at home, may be justly compared to so many different suits of clothes, cut for, and adapted to, a given number of individuals.

Now, the dental professor of a medical college would find himself in the attitude of one, whose business it was, to select or manufacture from these ready-made clothes, garments for another class of individuals, differing materially both in stature and proportion; a task at once both embarrassing and laborious.

It might, indeed, be honorable for a dentist to wear a coat made from the cloak of a medical man, but in behalf of the faculty of this college, I would say, give us the *cloth* before it is made up, and we will endeavor to give you a more perfect fit, and at a much more economical rate. A chair of dental surgery, as an appendage to a medical college, must be a practical one; and the professor must pre-suppose the students already versed in all the elementary branches which this subject involves, together with their application; for he certainly could not make the requisite applications, which should have been made by each, without *absolutely repeating* at least the substances of their lectures; thus virtually assuming the work of the whole faculty. Such a one would be entitled to have inscribed upon his insignia, "E Pluribus Unum." But before being long engaged in this arduous undertaking, he would doubtless stop to inquire, how much this labor could be curtailed, compatibly with the interest of his pupils; and especially would he be inclined to do this when he found that after all he could glean and turn to good account, from the whole course, it becomes necessary to teach a host of new facts and new principles, in order to do justice to his own subject. In pursuance of this inquiry, it would doubtless occur to him, that the subjects of several of his colleagues might be wholly dispensed with, and that the useful material might be arranged under a more convenient head; and for the lack of these, he would supply others, more pertinent to the object of his own course. In short, there can be but little doubt, that the experiment would convince him, that the whole course should be remodelled:—selecting those portions of medical science, particularly applicable to dentistry, adding what would still be wanting, and arranging the whole

under a suitable number of heads; and assigning them to teachers, who, though engaged in different departments of the subject, should mutually direct their energies to the same end—to perfect the student in all that can pertain to dental surgery.

(To be Continued.)

KILLED BY BAD DENTISTRY.

"NEW-YORK, May 26, 1847—No. 1 Bond st.

"Messrs. Greely & McElrath :

"GENTLEMEN: I read in your paper yesterday morning the following paragraph:

"KILLED BY BAD DENTISTRY.—A short time since we noticed the death of Mr. N. P. Ames, the celebrated manufacturer of Cutlery at Springfield, Mass. His death is attributed to poison from swallowing, in the night, the material with which a European Dentist filled one of his teeth a couple of years since, which had not been properly secured. He had not seen a well day since."

"Mr. Ames, some time ago, informed a friend residing in this City, that he had teeth filled in Paris with 'paste,' and had not seen one well day since the operation was performed. He attributed his whole illness to the mercury or quicksilver of which the paste was made. I have written to a professional friend of Mr. Ames for a full statement of the case, and if I obtain it I will lay it before the public. Many of the readers of your paper will recollect that, during the past few years, I have endeavored to warn them against employing Dentists who use quicksilver, combined with common silver, for stopping teeth—the identical article used in Mr. Ames's case.

"I again say, fearlessly, that I have no confidence in the professional honesty of any man who will use it—saying, as many do, that it is better than gold. If it is better, I hereby challenge the whole of them to come out in the public prints of our City, and show the profession—their deluded victims, and an abused public—wherein it is better than gold, and what authorises the base material ever to be used when gold can be employed for saving teeth. I am, gentlemen, your obed't serv't,

"ELEAZER PARMLY."

Facts versus Parmly.—The Case of the late Mr. Ames.

At a meeting of Dentists of the city of New York, Dr. E. Baker was called to the chair, and Dr. A. C. Castle appointed Secretary. The following resolutions were then unanimously adopted:

Resolved, That the cause of Dental science and our own standing as professional men demand a rigid examination and exposure of the calumnious charges made by Mr. E. Parmly against all who have adopted the established

practice of filling with amalgam teeth which cannot otherwise be preserved."

Resolved, That in order to put the public in possession of the facts of the case, a disinterested and competent medical man be sent to Springfield, the residence of the late Mr. Ames, and there institute all inquiries necessary to elicit the WHOLE TRUTH as to the *correctness* or *falsity* of Mr. E. Parmly's statement.

In accordance with these resolutions it was unanimously agreed that Dr. James A. Houston should be employed to carry out the object of the last resolution.

At a subsequent meeting, the following report was received from that gentleman:

On arriving at Springfield I called on Dr. J. Perkins, one of the most distinguished Dentists in that part of the country, and stated that I was desirous of obtaining some authentic information with regard to the case of the late Mr. Ames, which has been made the subject of several newspaper articles in the city of New York. Dr. Perkins replied in a frank and courteous manner, and communicated to me the important and interesting fact that some time after Mr. Ames's return from Paris, he (Dr. P.) filled several teeth of a sister of Mr. Ames with the amalgam of quicksilver and silver, and that he stated to Mr. Ames and the lady the materials of which the amalgam was composed. The Dr. asked Mr. Ames if he had any objection to the operation? Mr. Ames replied that he had no objection in the world to that amalgam, and that it was altogether different from the filling which had been placed in his teeth when in Paris. "Am I to understand, then," I asked, "that Mr. Ames sanctioned the use of the amalgam in his sister's case, having a full knowledge of the materials of which it was composed?" "Certainly," the Dr. replied, "the amalgam was placed in his sister's teeth with his full approbation, and there it remains to this day with the most satisfactory results."

W. Bowdoin, Esq. of Springfield, also kindly communicated to me information in full corroboration—if any corroboration were necessary—of the statement made by Dr. Perkins.

Having ascertained that Mr. Ames had been under the care of Dr. Bemis, of Cabotville, I drove out to that gentleman's elegant cottage, and was fortunate enough to find him at home. The Doctor has stood at the head of his profession, in this section of New England, for the last twenty years. He was the medical attendant of the late Mr. Ames for five or six years.

Dr. Bemis gave me a full and instructive account of the case, of which I made notes, and which would prove interesting only to the medical profession. The immediate object of my inquiry does not require that I should, here, give more than the simple statement of Dr. Bemis, that the incident of the filling of Mr. Ames's teeth, and his alleged swallowing of the material inserted, had never been allowed the least weight in the diagnosis, prognosis or treatment of the case, either by himself or his associate, Dr. Flint. *As to the idea that Mr. Ames had been injured by swallowing an amal-*

gam of quicksilver and silver, Dr. Bemis remarked, *it was too ridiculous to be entertained for a moment.* Dr. Bemis suggested that in all probability a Parisian quack had inserted an arsenical filling in Mr. Ames's teeth, which might have occasioned the distress and annoyance of which he complained. When I mentioned that the public of New York had been told that the amalgam of quicksilver and silver was poisonous, Dr. Bemis exclaimed, "What! Have you no educated Physicians and Chemists? How then can any such statements gain credence?"

I am your obedient servant,

JAMES A. HOUSTON, M. D.

Late Editor "New York Lancet."

New York, June 14, 1847.

This report having been read,

Resolved, That it be published in the City newspapers, without a word of comment, leaving to the public to pronounce the verdict.

E. BAKER, Chairman.

A. C. CASTLE, M. D., Secretary.

The card of Dr. E. Parmly we cut from the New York Tribune of May 26th, 1847.

Drowning men catch at straws, Dr. Eleazer Parmly has caused the republication of the supposed cause of death of N. P. Ames, Esq., with a view, we suppose, to have another opportunity to repeat his warning to the public against "employing Dentists who use quicksilver combined with *common silver*." "The identical article used in Mr. Ames' case."

Dr. Parmly seems very anxious to have a newspaper controversy with somebody, and if he will pay for the publications we have no objections to join issue with him, but we would suggest to him another plan, which would be equally so, and perhaps more entertaining to the public; it is this, let him publish every successful and unsuccessful operation that may come under his observation, both in gold and mineral paste fillings, his own operations not to be omitted, and there can be no doubt but that there are many in the profession who would take much pleasure in furnishing Dr. P. with valuable cases for him to report. This we believe to be the only true and honest course, for then the public would no longer need his "warning" voice, for they would judge for themselves according to the facts presented.

We are decidedly opposed to all one-sided systems, therefore we desire Dr. P. should give us both sides of the question, and if it

is his desire to place the "whole truth and nothing but the truth" before the public he will most certainly do so, and if he wishes, he shall have our co-operation in the undertaking.

Dr. Parmly's want of "confidence in the professional honesty of any man who will use it", (the mineral paste,) does not necessarily prove them "professionally dishonest" nor the loss of the "confidence" of the public whom they faithfully serve.

If we may be permitted to judge from the increased demand for mineral paste fillings, it does appear that it is a valuable material for the preservation of diseased teeth, for no individual would have it placed in their teeth the second time if it had wholly failed to preserve those that had been filled; but the demand has been gradually increasing, notwithstanding the warning against its use in high places, and in all cases where the operation has been faithfully performed it has given as good satisfaction as if gold had been used,* and in many, it has done better, and the result is, it is recommended to their friends.

We do not doubt, but that Mr. Ames was ill after having his teeth filled; and that he died after swallowing the filling; but that it was the cause of his sickness and death we very much doubt, and we shall take the trouble to learn all of the particulars, and to place them before our readers. It may be true that Mr. Ames has "not seen one well day since his teeth were filled in London." And it may also be true that he had not seen one well day many months, and, perhaps, years before. It will be observed that Dr. P. is very careful not to commit himself on the subject of Mr. Ames's sickness and death, but, with his usual cunning, has endeavored to have his communication have that effect without his saying that *Mr. Ames was poisoned with the paste, and died in con-*

* When we say that it has given, in all cases, as good satisfaction as a gold filling, we wish to be understood, as far as the preservation of the tooth is concerned, its liability to tarnish in some mouths is a serious objection, if it is put into a tooth where it can be seen; therefore, we never recommend it for filling front teeth, although we may be satisfied that it would preserve the tooth much longer. Beauty, as well as durability, is very desirable in the front teeth.

sequence. It is a very easy matter to attribute effects to certain causes, but, in many cases, it is exceedingly difficult to prove, and we believe it will be so in the case of Mr. Ames. Now, if Mr. P.'s object had been to establish a scientific truth, in the republishing the death of Mr. Ames, instead of advertising himself as the dictator of other Dentists' operations, he would have waited until he had obtained all of the facts, and then to have published the whole.

Dr. Parmly seems to be endowed with a *prophetic* understanding, for he declares, positively, that the filling in Mr. Ames's tooth was quicksilver, combined with common silver. Hear him,—“I have endeavored to warn them (the readers of the Tribune,) against employing Dentists who use quicksilver, combined with common silver, for stopping teeth,—“*the identical article used in Mr. Ames's case.*” Now, it certainly does show great, and inexcusable ignorance on the part of Dr. P., for him to say that the filling in Mr. Ames's tooth was “quicksilver, combined with common silver,” unless he has positive evidence of the fact; and it appears from his own statement, that all he knows about it is hearsay—and that is based on what Mr. Ames *supposes*, and not what he *positively* knows. If Mr. Ames was mistaken, and it is more than probable that he was, then Dr. P. has caused an untruth to be published. It is well known that the pastes for filling teeth are composed of a variety of materials, and although quicksilver does enter the composition of most of them, yet it does not in all, and in some no silver enters; and a few Dentists use gold and quicksilver alone, or gold, silver and quicksilver com-

bined.* Bismuth, tin, copper, and platina have been more or less used. We have no objection to the paste made from quicksilver and silver, in their purity; and if Mr. Ames's tooth was filled with that kind of material, we do not hesitate to say, that it could not possibly have done him any harm, no more than the swallowing of an artificial tooth, which is a very common occurrence. A patient of ours, by accident, swallowed at least twenty grains of paste, made from purified quicksilver, silver and platina, in a soft state, and the patient has never suffered the least inconvenience from it up to this time, which is more than eighteen months since: but if the paste was taken into the stomach in a soft condition, it would be much more liable to be followed by injurious consequences than when taken in a solid.

As Dr. P. is so desirous to establish the *fact* that mineral paste made from “*quicksilver and common silver combined*,” is poisonous, when used for filling teeth, and if swallowed, is liable to produce death, we would suggest to him the following experimental plan, which will be a sure test of its poisonous or non-poisonous properties, and when executed, let him give the result of the investigation to the public “*in the public prints of our city.*”

The experiment.—Let two healthy dogs be obtained, and in the presence of several Dental, Medical and lay gentlemen,—let Dr. Lovejoy, in their presence, (or any other Dentist who may be chosen by the committee of professional and lay gentlemen,) prepare the paste made from “*quicksilver and common silver combined*,” and before it hardens, give one of the dogs 100 grains or more, and after it has become solid, give the other dog the same quantity,—then let the dogs be kept for a sufficient length of time for the *poisonous* properties to do its work, by one of the gentlemen who witnessed the administration of the paste.

We are acquainted with several individuals whose health has very much improved since their teeth were filled with mineral paste, and we also know others whose health has gradually declined ever since the day their teeth were filled with gold, and we have

* How does Dr. P. know but the paste with which Mr. Ames's tooth was filled was made from purified quicksilver and refined gold combined? and, if so, it could not be “quicksilver and common silver combined.” And we would ask the learned Dr. P. if he knows the pastes, one from the other, when he sees them, or if they should be placed together, could he select the *golden one*? If a paste is composed of gold and quicksilver, there is no more impropriety in calling it a golden paste than there is in saying a “*mercurial*.” But we do not expect that Dr. P. will ever condescend to give mineral paste so rich a name as a golden one, because it would frighten no one.

known others whose health not only declined, but they finally died after swallowing a gold filling. But what do all such facts prove, independent of others connected with them? nothing at all; and yet they prove just as much as those connected with the filling in Mr. Ames's case.

So eager are the opponents of mineral paste to put it down "by a bad name," and not by truth, that they "compass sea and land" to obtain a single case that is *reported* to have an unfavorable influence. But let them use the same vigilance to publish all of the cases where gold has failed, and mineral paste has successfully preserved teeth for many years in a comfortable and useful condition, then those individuals who have not tried the mineral paste as a preservative of diseased teeth, would be able to judge for themselves. And if Dr. P. is honest in his desire to serve the public, he certainly cannot refuse to do so; and if Dr. P. finds any difficulty in obtaining cases which are good witnesses in favor of mineral paste, we pledge ourselves to furnish him with ten favorable to his one unfavorable to it.

The challenge of Dr. P. we accept, if he will pay for the publishing of the cases which we can furnish him; or we will fill teeth with him,—he shall fill one cavity with gold, and we another in the same mouth and condition, with mineral paste, for a patient that he may select, then we will select a patient, and two cavities in like condition, the Dr. to fill one with gold, and ourselves the other with mineral paste; this plan will tell the whole truth, and nothing but the truth, and it will give the Dr. an opportunity to show (if he has any) his superior skill in filling teeth over many others in the profession.

Dr. E. Parmly continues to call for the proofs which he has been compelled to produce himself, for he acknowledges in his reply to F. H. Clark, Esq., of the first of June, that F. H. Clark, has filled teeth with *Mineral Paste*, which he had failed to do with gold, and as he offers no evidence to prove that it has been in the least degree injurious, either to the teeth or constitution of the patient, it certainly does prove, beyond a question, that "in many cases" it is "better than gold." The following is Dr.

E. Parmly's testimony: "I would here own the merit of F. H. Clark in stopping with it (*Mineral Paste*), which I had failed to secure with gold. *There are many such.*" Now, if "there are many such," teeth, which can be saved by mineral paste by the Dentist who has the boldness to use it, and cannot be with gold by the Dentist who boasts of his thirty years *unparalleled* success in his profession,* it is self-evident, that the Dentist who arrests the progress of diseases in "many such" teeth with mineral paste cannot be very dishonest, nor charged with mal-practice, unless dishonesty and mal-practice consist in preserving from further decay teeth which "thirty years of unparalleled success" had failed to teach another Dentist.

Dr. Parmly's objections to mineral paste are truly novel, and like all of his objections founded upon false theories, and not upon truth. The Dr. says of mineral paste, "Being composed of quicksilver and some other metal, and exposed necessarily to the heat, moisture, and action of the saliva, as well as to the more extraneous causes, it becomes in many mouths rapidly oxidised; *this black oxide of mercury,*" &c. "This black oxide of mercury" is the true *hydrophobia* of mineral paste. Prevent its manufacture when in the teeth, and the opponents of mineral paste would say that it was a harmless compound. But neither Dr. P. nor any other opponent of mineral paste has ever produced the first evidence that the tarnish on it is the black oxide of mercury. They only suppose it may be formed. But the great difficulty in preparing the black oxide of mercury by any chemical process, out of the teeth, shows that it is very doubtful whether it would be formed under any circumstances in the teeth.

"*Protoxide of Mercury.*"—This oxide, which is a black powder, insoluble in water, is best prepared by the process recommended by Donovan. This consists in mixing

* See Dr. E. Parmly's Lecture, delivered before the American Society of Dental Surgeons, published in American Journal and Library of Dental Science, in Vol. 5, and No. 7.

calomel briskly, in a mortar, with pure potassia in excess, so as to effect its decomposition as rapidly as possible. The protoxide is then washed with cold water, and dried spontaneously in a dark place. These precautions are rendered necessary by the tendency of the protoxide to resolve itself into the peroxide and metallic mercury, a change which is easily effected by heat, by the direct solar rays, and even by day light. It is on this account very difficult to procure protoxide of mercury in a state of absolute purity."—*Webster's Chemistry*, page 302.

It appears that the black oxide of mercury, which Dr. P. seems to believe will destroy life, is made from calomel and potassia (not from mineral paste). Hence, if there is any danger from being poisoned by it, it must be in such cases where calomel is administered. Therefore Dr. Parmly's warning voice should have been directed to the Physician and Surgeon, who are giving calomel daily to their patients, and not to the Dentists who are using a harmless compound. But experience has taught the community that there is no danger to be apprehended from the black oxide of mercury when calomel is taken into the stomach. But if it were true, as Dr. Parmly has tried to make the public believe, that the stomach is such a powerful laboratory that it is capable of chemically changing mild mineral medicinal substances into active or slow poisons, then no person's life is safe who may take them.

If Dr. P's theory is correct, how is it possible for the Physician to know the effect his medicine will produce upon the constitution and the disease. The Physician may administer ten grains of calomel to his patient to produce a cathartic operation, but on his next visit he finds him a corpse, for the chemical laboratory (the stomach) has converted the calomel into corrosive sublimate. And another important bearing on the morals of the public must not be overlooked, if Dr. Parmly's theory is correct. We have reference to Medical Jurisprudence. To give a more perfect understanding of the great immoral consequences of Dr. Parmly's favorite theory, we will suppose a case which will illustrate the practi-

cal operation of it. Suppose an individual was seen to put into the food of another person a white powder, and it should be eaten. The person who has swallowed the white powder with his food is a short time after taken very ill, and dies. His stomach is examined, and corrosive sublimate is found in sufficient quantity to produce death. The individual who gave the powder is arrested, charged with the murder, and on his trial his counsel enter the plea that his client put only ten grains of calomel into the food, and if corrosive sublimate was found in the stomach of the dead man, it could not be any fault of his client, but the fault of the chemical laboratory (the stomach) over which he had no control, which changed his calomel into a violent poison, and quotes Dr. E. P., of No. 1 Bond street, as authority; and if Dr. P's authority is good, that the stomach will change mineral paste into a black oxide of mercury, it is also good for the criminal.

We have delayed the publication of this No. to enable us to lay before our readers the testimony of Dr. Bemis, the attending Physician of the late Mr. Ames, which will be found in the report of Dr. Houston. Dr. Parmly publishes in this morning's Tribune, (June 15,) an extract from a letter, written by Mr. Ames when in Paris, which expresses Mr. A's opinion on the subject of the material with which his teeth were filled, but it amounts to nothing, as far as proof is concerned.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 29 Bond Street, New York; or to Asahel Jones' General Agent, 263 Broadway.

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The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

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No. 11.

HINTS TO DENTISTS.

BY CHARLES C. ALLEN, M. D.

Chap. IV.

Treatment of teeth after the nerve is exposed or dead.

The most prominent feature in the practice of Dental Surgery, during the last few years, has been the attempt made, by almost every dentist, to preserve the teeth after caries has reached and exposed the dental pulp. The following plan, by Dr. Flagg, of Boston, published as his own in the Boston Medical and Surgical Journal, has been tried by several dentists for a number of years. It is not strange, where many are seeking to accomplish a certain object, that the same means should be suggested simultaneously to different minds far removed from each other; but as Dr. Flagg calls this his own plan, and as I do not recollect seeing it before described in print, I will do him the credit to call it his.

One of the most common operations in dentistry at the present day, is that which is performed for arresting the progress of caries by filling or plugging with gold the cavity which has been formed in the osseous part of a tooth by the progress of disease.

Much the largest number of cases which require this operation, are, when treated in due season, before the disease has extended to the nervous pulp of the tooth, such as can be treated effectually and with but very little, if any, pain to the patient. Teeth faithfully filled in this stage of the disease are found to be less liable to a repeated attack at the part operated upon, than at any other sound portion of the tooth.

But in order to prepare a diseased tooth for receiving the gold, or other metal employed for

the purpose, it is requisite to understand and keep in mind the pathological state of the bone, and proceed on the well-established principle in surgery, in relation to the treatment of carious or necrosed bone, which requires that in order to place the healthy parts in the most favorable situation to heal, the diseased and perished parts which have not been, or cannot be, cast off from the adjacent healthy bone, should be carefully removed by instruments.

In doing this it has been found that a certain proportion of cases cannot be thus treated without approaching too near to the cavity of the nerve, or exposing it entirely, so that to fill the tooth in this state would but cause immediate or subsequent pain and inflammation, followed by ulceration, and if not relieved by the natural opening of an alveolar abscess (gum boil), the loss of the tooth would be inevitable.

It always has been a desideratum in dentistry to discover or invent some method or treatment which would effectually destroy the central nerves of such teeth, and render them susceptible of being filled and restored to usefulness. Drills and other small instruments were used to tear to pieces or extract the nerve, but except in those which have a single root and straight canal, this could not be done. All the common escharotics and caustics used in surgery for the destruction of soft parts have been tried, even the actual cautery (a red-hot wire) was not passed unnoticed in these efforts; but all with only partial success. Various compound salts and essential oils, were repeatedly tried, with no better results. So that such cases became discouraging both to the patient and practitioner, and they were commonly given up.

About the year 1830 the white oxide of arsenic was introduced, and I believe first tried still earlier by Dr. Spooner, a scientific American dentist, in Montreal, Canada. This article was received into use with great caution on account of its potent and poisonous qualities; but it was soon found that so minute a quantity would act effectually that there was not the least risk to any one, of being injured by it, if it were cautiously administered. And for a time every dentist who used it was led to hope, and some to feel confident, that the long-desired article for saving teeth which were diseased to the extent just mentioned, had at last

been found, and indeed a very large proportion of such teeth as had to be extracted or left to be rapidly decaying and painful previous to the discovered effects of the arsenic, have been rendered comfortable, durable, and useful.

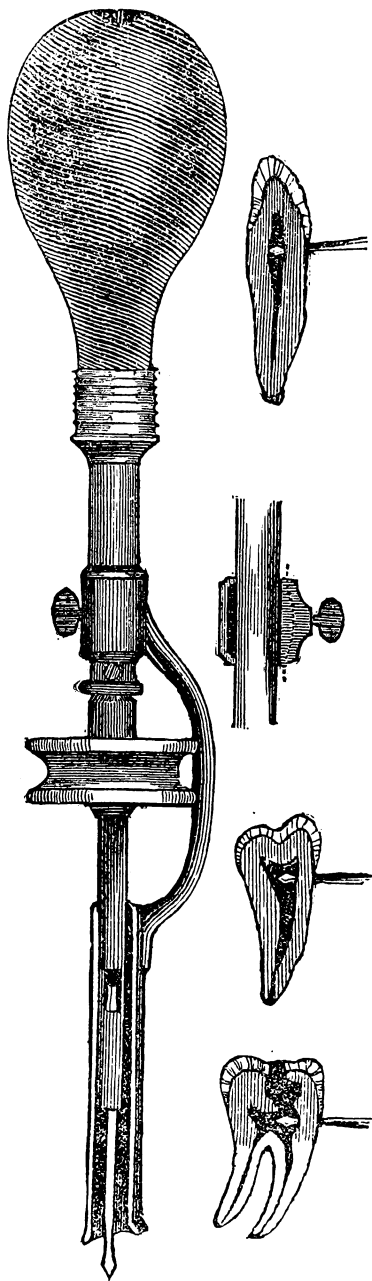
But yet there has been something wanting to complete success in a certain proportion of such cases. Where the central ganglion or nervous pulp has been fully destroyed and the tooth filled in a perfect manner, there will succeed in a few hours, days, weeks, or even months after, soreness, pain, inflammation, and swelling about the sockets, and, if the tooth be not extracted in season to prevent it, ulceration.

These evils have still occurred often enough to induce many dentists to spare their patients and themselves the vexation which they occasioned, and some have said to me, "I do not attempt to save such teeth so often as I formerly did, the treatment fails in so many instances."

The questions naturally presented to the mind in regard to such cases are, What is the primary or principal cause of all these troubles? What the operation of the cause? If the nerve is simply destroyed by the arsenic, and the tooth not filled, there is much less frequently subsequent pain, though the tooth will be uneasy during mastication and rapidly decay. Filling the tooth, then, in this situation, is the primary cause; and the following is the operation of it, in producing the successive troubles which occur. The natural canals in the roots of the teeth, occupied by the nerves previous to the application of the arsenic, cannot, except in a very few instances, be entirely filled in the operation of plugging. A cavity is hence left, minute though it be, and this is filled by the extravasated blood, or by some watery secretion. In some constitutions this will give no trouble, but in others become offensive, increasing so as to cause pressure on the soft tissues surrounding the extremity of the fang. Irritation first, with sense of fullness, occurs, then pain, the consequence of slight inflammation of the alveo-dental or articulating membrane. This membrane becomes thickened, the tooth is started slightly from the socket, feels loose and sore, inflammation increases and covers the whole of the fangs, extends to the gum which becomes swollen and tender; pus being at length secreted, fills the whole canal in the fangs of the tooth, occupies the extremity of the socket, makes increased pressure on the inflamed parts, and if the tooth is suffered to remain long enough, either the plate of the alveolus and the gum over it become absorbed at some part and the pus escapes and gives relief, or the vitality of the whole articulating membrane is destroyed by ulceration, the tooth remains as a foreign substance, and must be extracted before the part can heal.

The object I have sought, then, to prevent the commencement of these troubles, has been that of filling the tooth without closing or sealing the natural cavity or chamber of the nerve. For reasons which will be evident to every experienced dentist, this could not be done effectually by leaving the passage through the metallic filling. I therefore conceived the idea of drilling a fine hole in the neck of the tooth just

beneath the gum and through into the natural cavity, at a point rather deeper than the filling should reach. [See sections of teeth in the engraving.] Through this artificial opening



any fluid collected in the cavity of the fang would, as I judged, find exit; and the gum, acting as a flap or valve, would prevent all particles of food from entering the new orifice. All undue pressure from a confined fluid on the already irritated soft tissues about the extremity of the fangs would be prevented, and all the consequences resulting from it which have been mentioned above.

The result of my first operation in this way

encouraged me to repeat it in similar cases, and I have now continued it for more than two years, saving, as I believe, more than two hundred teeth, which under any other circumstances I should have been obliged to extract. I do not know that I have failed of perfect success, but once; and on extracting the tooth, which became painful, I found that the drill had passed into a small caries peculiarly situated in the tooth, and which did not communicate with the natural cavity. I was therefore deceived in the operation.

Nearly a year ago I communicated the result of my experiments to my brother—Dr. Flagg, of Philadelphia. He has since informed me that he had performed the operation in about twenty cases, all of which have been successful.

It will be seen that in this operation the perforation is made through a part of the tooth which is least liable to be destroyed by the disease, a part which, with few exceptions, remains sound while the whole crown is destroyed, and while the interior of the fang is wasting away. During the operation of filling, I place a metallic pin where the drill has passed, which is afterwards withdrawn.

I have been successful with this new mode of treatment, not only in those cases where I have made the perforation previous to filling, in order to prevent the occurrence of subsequent pain, but in those where the nerve has been destroyed by the ordinary progress of the disease or by caustic and the tooth filled, pain has followed months or years after, with sufficient inflammation to have caused the loss of the tooth, if relief had not been obtained by passing a drill into the root; and this has been sufficient without removing the filling.

The result of this practice, heretofore, authorizes me to say that I am confident all teeth may be saved by it, and be rendered comfortable and useful, which have not been neglected so long that ulceration has already taken place, or the inflammation has become so great that it is inevitable.

In most of these operations, I have used the simple instrument with which I drill the roots for setting artificial teeth, holding the lips of the patient aside when requisite, with my finger, or by the aid of a speculum oris contrived for the purpose. But there has been some inconvenience and awkwardness attending this, and I have lately constructed an appendage to my drill-stock, which operates perfectly as a guard to the lips in this operation. A sketch of the whole instrument is given in the annexed engraving.

It will be seen by the engraved figure of the instrument, that the drill is intended to turn freely in the semi-cylindrical portion of the guard; and that the whole guard may be moved, as the drill passes deeper into the tooth, by means of the screw at its upper extremity.

This plan of treatment is merely temporary, and, no doubt, will in most cases preserve the tooth for several years longer than it would otherwise last, inasmuch as the de-

cay in the small vent hole will not so soon destroy the tooth as the larger and more exposed one caused by the decay. Sooner or later, however, caries will commence in it and destroy eventually the entire tooth. I have frequently relieved aching teeth in this way, when they had been filled so near the nerve as to produce inflammation in it.

One of the earliest operations performed upon exposed nerves, and one most naturally suggested to the mind of the operator, is what is commonly called capping, which consists in protecting the nerve by a small plate of gold or lead laid over it in the bottom of the cavity. Almost every dentist with whom I have conversed upon this subject, has tried this experiment, and yet I do not know of a single instance in which it has proved successful in preserving the vitality of the nerve. Several years since I performed this operation frequently in every stage of decay, but without success; and in August, 1846, I repeated it. The following is the case:

Mr. A. had an anterior superior molar tooth badly decayed. On excavating it I found the nerve very slightly exposed but perfectly healthy, having caries over it which had never been disturbed. I covered the nerve with a small gold plate and put in a solid gold filling. The above gentleman called again February 3d, 1847, and stated that the tooth ached and jumped occasionally for a day or two after it was filled, and then became quiet. It was now sore to the touch, the parts around the roots considerably inflamed, and on removing the filling I found the natural cavity of the tooth filled with a very offensive matter. Several days after, finding the soreness all gone, I filled the tooth with a gold tube passing through the filling and communicating with the internal chamber. Since that time it has given him no trouble.

This result, so far as I have been able to learn, has followed most cases of capping nerves. So general have been the failures in this operation, that I believe all but young operators, to whom the novelty of the operation is interesting, have abandoned it. It seems to be generally admitted that the nerve must be destroyed before any chance

exists of preserving the tooth. How had this better be done? and here we at once stumble upon an "apple of discord" among dentists. One says Nitric Acid, and for several years I used it with very considerable success. Another, Nitrate of Silver or pure Potassa; these I have also tried, but found the pain produced by them so severe that I was often obliged to remove them. Mr. Duning recommends plunging a probe to the extremity of the root, and extracting the whole nerve at once; and this plan answers very well in the front teeth: I have always adopted it when the decay was so situated that I could do so, and when my patient would permit; but in molar teeth I consider it inadmissible on account of the great pain which must in almost every case attend the operation.

The following, taken from the American Journal of Dental Science, describes Dr. Maynard's plan of treating exposed nerves and filling their cavities. The filling of roots is not peculiar to Dr. M. any more than the drilling of crowns is to Dr. Flag, although he may have carried it to greater perfection and extent than any other dentist. About two years since I extracted a lateral incisor, and on examination I found the gold filling every part of the canal through the root and showing itself through the foramen at its extremity. The operation had been performed several years before by Mr. Elihu Blake of Park Place, and notwithstanding all the care which he had bestowed upon it, it had become so much diseased in the socket that I was obliged to extract it. Other and similar cases in my own practice have convinced me that this operation will not in all cases preserve the teeth.

"Among other items of *practice*, our attention turned upon the use of arsenious acid for destroying nerves in teeth. Our views upon this subject have been heretofore freely expressed, and our reasons for those views.

"Some of the objections which we have urged to its use, Dr. M. has, by his peculiar mode of operating, wholly overcome. His method of putting this substance in a tooth, precludes the possibility of its "producing mischievous consequences by its getting into the mouth." We had an opportunity, while there, of seeing him operate, where he had the day before placed

arsenious acid in a tooth, for the purpose of destroying a nerve, and we will briefly describe the case. His patient was an elderly gentleman, himself one of the oldest and most respectable members of the profession. Dr. M. removed the "packing" in our presence, and exposed the nerve. When his probe first touched it, the patient exclaimed, "'Tis not dead yet." Dr. M. observed, that the mere fact that sensation was produced, was not a sure sign the nerve was not dead. His explanation was that the nerve cavity was filled with a semi-fluid substance, and hence, pressure on the lower extremity would be readily felt at the other extremity, and perhaps even *through* the root. By excavating around the natural orifice, and being careful to bring the matter it contained *downwards*, he soon proved that the nerve *was* nearly all dead, by removing the greatest part of it.

His method of confining the arsenic in the cavity is peculiar, and is well calculated to free the nerve from all pressure, to which he attributes most of the pain caused by this operation, and to secure it firmly in its place, excluding even any moisture from the saliva. It is as follows: he takes white wax and works into it cotton or lint, till it is thoroughly mixed together. With this he fills the cavity in the tooth. Before doing this, he exposes the nerve as much as possible, applies the arsenic, and *caps* the orifice with a plate of lead, of a cup shape, the convex side outward. While this is carefully kept in place, he fills the cavity with this cotton and wax, very carefully, and perfectly, in a way so as not to shut in and compress any air which might press upon the nerve. On removing this packing in the case above alluded to, I was surprised to see that his preparation had been kept perfectly dry, although it had been there twenty-four hours.

After he removed this packing, and the preparation, he proceeded to remove the nerve. Instead of attempting to do this at once, he began by cutting on every side of the orifice, so much enlarging it as to be enabled to remove the nerve without pressing the contents of the cavity upwards.

It was to us a matter of interest to examine the instruments used, particularly for removing the nerve.

Some of his probes were made from the mainspring of a watch, by filing or grinding them sufficiently narrow, to enter the smallest space which he wished to probe. In this way he secures the most perfect *spring temper*, a point not easily attained in so fine an instrument as a probe adapted to this purpose. These probes were bearded by cutting them with a sharp knife—the beards pointing backwards.

With different sizes of these probes, and by enlarging the cavity from time to time, he removes the nerve to the extremity of the root.

His operation of filling the root is characterized by the same neatness and dexterity. His instruments are of the most delicate kind, and are adapted to reach to the end of the fang, although the canal may not be entirely straight.

In filling these roots he used very heavy gold, we believe from No. 12 to No. 30.

This is cut into strips corresponding to the diameter of the cavity, and is not doubled. The end of one of these strips is laid upon the end of one of these delicate pluggers, and carefully carried up to the upper extremity of the root. If this is effected, the instrument is withdrawn a slight distance, then returned, carrying with it another portion, till the strip is exhausted. In this way the whole root is filled. The main cavity in the crown is filled afterwards in the usual way.

In respect to the success attending Dr. M.'s operations of this kind, he informs me that it has been almost entire. We saw several of his patients for whom he had operated in this way—in one case where the operation had been performed on several teeth some years before, when the patient was but 11 years old, and the mouth, so far as we could judge, appeared healthy. One thing is very certain, if Dr. M. does not succeed with it no one else need try, for we are satisfied that he has brought it to greater perfection than any one with whose operations we have ever been acquainted. It will be recollected, however, that his patients, of this class, are generally those who take good care of their teeth, and use the means necessary to success.

The mere fact, that he charges from \$10 to \$30 for performing the operation, is a sufficient guarantee that it will be confined to those who place a great value upon their teeth. This charge would be a sufficient proscriptive measure with most operators, and in most locations. Although his method obviates the objection of the acid getting into the mouth, and requires much less of the arsenic than we had supposed necessary, yet, we cannot admit that even his method gives us a *guarantee*, that the morbid influence which is sufficient *within* the root, to *destroy* the nerve, will not, in some cases, or even in any case, extend beyond the apex of the root, and create a disturbance there.

It is an old saying that "the proof of the pudding is in the eating of it," and if the *result* in his hands is as favorable as it appears to be, and since this is undoubtedly the most effectual, if not the only means of destroying the nerve readily, short of the instrument itself, we shall by no means, feel like prescribing it *in his hands*; yet we do still regard it, unless confined to operators who exercise the most *scrupulous caution and judgment*, a practice, pernicious in its tendencies. We have no feeling to gratify upon this subject, except to arrive at correct practice, and if the views we have entertained of it, and which we have freely expressed, are not in accordance with pathological principles, we will cheerfully lay them down so far as they can be shown to be wrong."

The writer of the above (Dr. Westcott) has neglected to tell us whether the arsenic was applied pure or in combination with other materials. If pure arsenic is applied it is necessary to use a much greater quan-

tity, in order to insure its coming in direct contact with the nerve, than is needed for its destruction. In no case should enough arsenic, or any other poisonous substance, be put in a tooth to injure a person, if by accident it should escape from the tooth to the stomach. However judiciously it may be secured there is always a chance that it may escape; for, as Dr. Westcott has observed in another article, after "placing it in the teeth of careless persons he (the dentist) will frequently, on a second visit, look in vain, to find either the arsenic or its envelope, and ten chances to one if his patient can give any account of it." I have generally employed it in combination with Tannin and; Morphine, using one part of arsenic to three of each of the other articles. In this combination the nerves may be so completely paralyzed by it in twenty-four hours as to be removed without pain, nor have I known inflammation to follow in a larger proportion of cases than when the nerve was extirpated with the probe.

The quantity of arsenic used in this combination to paralyze a single nerve, I have ascertained to be not over the one hundred and fiftieth part of a grain. I am convinced, from the acknowledged skill of Dr. Westcott, that the operation will succeed in his own hands, as well as in the hands of Dr. Maynard, if he will but give it a fair trial. In the very careless manner in which arsenic has been used I am only surprised that no more mischief has been done with it. Like all new remedies, it has been greatly abused and, in the hands of ignorant and careless men, it has no doubt done much injury; but cautious observing men will not reject it, nor any other article, on this account. A few years more of experience, in the use of many articles about which a difference of opinion now exists, and the present vexed questions will be settled by a wise observation of facts which every day and year, in this progressive age, are developing. Until such decision is made we cannot be too considerate in forming our opinions, nor too modest in expressing and maintaining them. "Let him who thinketh he stands take heed lest he fall."

DENTAL CONTROVERSY.

TO THE PUBLIC.

I did not intend to say anything farther until I received a statement of Mr. Ames's case from his physician, but, having quoted the language of my friend Mr. Baker, he has appeared in the field. I believed that what he said was the honest conviction of his mind, and knowing it to be strictly true, I also believed him to be too high-minded to swerve from his words; and when he put forth his sweeping denunciation against Amalgam, I did say, and publicly too, that if it was always in such hands as his, I should not be afraid of it, or would say nothing about it. And to another friend I said, if it is as you say, I have no objection to its use; but I have not yet had a shadow of proof that it is so, but to the contrary. Mr. Baker has published an extract of a letter from the distinguished Mr. Brewster. I will also take from his letters to me. In speaking of the Dentists of this country, he says: "My impression is, that we have carried the art in the United States to a degree of perfection which it has not attained in England." And speaking of the French, he says: "*What* are their Dentists? I say *what*, for they do not deserve the name of *who*. A dentist here is but little better than a street scavenger with you. Mallan & Sons have an office or two in London, and one in almost every provincial town in England, for the use of the Mineral Succedaneum, (to which Brewster gives the epithet *Suc-ce-dam-em*.) The villainous system of quackery and imposition, as practiced by certain persons in your city, should be exposed." He speaks of this class of Dentists "as carrying *death and devastation* to the teeth that are submitted to their attention," and adds: "I do not know a respectable dentist in Europe (and I know many) who does not condemn the use of the Succedaneum, and regard Mallan & Sons, the Crawcours, &c., the veriest quacks that ever disgraced any profession." In speaking of stopping, he says: "It is enough to make a man ——— to look at them. Did I tell you of the candor of one of them, (Parisian Dentists,) who said, 'You are fools in your country to stop teeth as you do; if you would pull them out and put in new ones, you would gain much more money!' The individual who made this remark to me is doing more business than any dentist in Paris."

That men who would rob a person of their natural teeth and put in artificial ones for the sake of gaining money, should use Succedaneum, I am not surprised at, but that such men as Mr. Baker should use it for that or any other purpose, is to me an enigma. The remarks Mr. B. has made upon my being "rich," my object, and "the drivel," &c., &c., are worthy of a mind infinitely below what I had supposed to be his grade, and prove, that not being able to elevate the character of amalgam, to what his mind formerly was, he has taken a "fearful leap," and sunk to where his "*nasty filling*" was, is now, and always will be. What I may have, my friends in New York have

mostly given me for hard professional labor, and I am willing to spend it, to any required extent, for their benefit; my object being the same that Mr. Baker's was when he aided most efficiently in driving those arrant knaves, the Crawcours, from our shores, for using this identical mineral poison in stopping teeth, which has not changed, and which cannot change "*in the nature of things*." Mr. B's mind and the mind of others, may change, but this change cannot extend to the properties of mercurial amalgam; that will have to pass through purer hands than Mr. Baker's, and be rolled out by fingers possessing more of the alchymist's lore than either his or mine, before even "a judicious use of it will be unattended with dangerous or unfavorable consequences."

Amalgam is wholly inapplicable and unfit for teeth-stopping, from these facts which are inseparably attendant on its use: 1st. It becomes exodized in the mouth; 2d. It blackens and destroys the vitality of the teeth; 3d. It causes disease in the socket and enveloping membrane—to say nothing about the very possible contingency of constitutional derangement, resulting in disease and death. When Mr. Baker proves that such is not the case, or that amalgam is anything but a "*nasty filling*," or when he answers my challenge and proves it as good as gold, I shall be happy to reply to him again, but not till then.

I do not know how many of the members of the Academy of Medicine approve of amalgam. I can answer for one, who called on me on Saturday, and who, from his own suffering and that of one of his own children as described to me, testified against it. Before Mr. B. refers again to that respectable body to prop up his sinking cause, he would do well to get a testimonial from them that oxide of mercury is a good thing to put into "*the mere shell of a tooth*"—and from the same "shell" into the stomach. After that we will attend to the Academy.

E. PARMLY.

1 Bond-St, June 7, 1847.

MR. PARMLY AND HIS AMALGAM WAR.

Mr. Parmlly having assumed the guardianship of the teeth of the public, and taken the responsibility of "warning" them against all who sometimes make use of mineral paste in their practice, as also to impeach the "professional integrity" of myself and seven-eighths of his professional brethren in this city, and all the distinguished dentists in Europe, has put forth a series of questions which he thinks I am bound to answer to the public.

Now, although averse to professional quarrels, and perhaps less competent than some of my brethren to explain the effects of mineral paste when used to arrest the decay of teeth, I am unwilling that any portion of the community should be deceived by the false, impudent, but rather specious assertions and theories put forth in the public prints by Mr. P. I shall,

as briefly as possible, give the result of the last eight years' practice in the occasional use of the controverted article, premising that—

From the advent of the article, Mr. P. early imbibed a most inveterate prejudice against amalgam, (which prevented him from using it,) he has, therefore, never been able to discriminate between the *material itself* and the *very bad* use made of it by a few European and native quacks.

The public are not aware that this dispute has become a mere party question, originating in a dental society in this country, a portion of which, by the most tyrannical and extraordinary means, are determined to coerce another portion, which, with a due regard to their own rights, adhere to their own ideas of what they consider correct practice. *Hinc illæ Lachrymæ.* But we ought, and are determined to be free, as an elegant writer on medicine said, "to examine *causes* and *results* and decide, and not be bound to a system of doctrines and rules handed down unchanged from instructor to pupil, like a religious creed from which it is rank heresy to swerve.

We hold it to be a paramount duty to consult the greatest good of a patient which his case will admit of, and we differ wholly from Mr. Parmly in saving numbers of teeth which, from his practice, he inevitably looses; and we are sustained by the opinion of seven-eighths of the dentists in this city, as well as nearly all in Europe.

Mr. Parmly has cited a letter from Mr. Brewster of Paris, written some years since, (evidently confidential from the nature of it,) when, no doubt, his opinion was against the use of amalgam in *any* case,—but what is it *now*? In a letter of Mr. Brewster to me, dated 23d of February, 1846, he says:—"I was among those who universally condemned amalgam. I am among those who believe, in certain cases, it is very useful, and I act accordingly, and it is used, I believe, by every respectable dentist in Europe, in some cases." Again, in a letter, dated 13th of March last, he writes:—"Relative to the use of amalgam in filling teeth, in certain cases, I am perfectly of the same opinion as when I last wrote you; and I repeat that I know of *not one* respectable or not respectable dentist in all Europe that does not, 'in certain cases,' use it." And he speaks particularly of Mr. Cartwright of London, accounted the first dentist in the world. Now, Mr. Parmly compliments Messrs. Delabarre, Maury, Lemaine, and Brewster, living in France, and who use amalgam "in certain cases," just as we do here; and why can he not be as civil and courteous to his equals here at home. Perhaps, from Mr. Ames's case, he thinks French and English amalgam better than ours!

Mr. Parmly perverts, if he does not falsify, the truth, when he says—"Mr. Baker has given me the credit of agitating a subject that he says it is impossible to discuss." Indeed! What were my words? "Mr. Parmly has mentioned my name in connection with a subject which he has thought proper to agitate, but impossible to discuss *in the public prints*;

impossible from the nature of the subject, expense, &c., and then he puts on the inquisitor's cap, and in the name of the public! propounds certain questions, *demanding* respectful and explicit answers! "O righteous judge! And to humor this mock hero, I am inclined to address him somewhat in the style of St. Paul, to King Agrippa:—I am most happy, O most noble Parmly, that I am permitted this day to explain those things before the people, whereof I am accused by thee.

Question 1st. "Is or is not quicksilver a constituent part of all paste compounds for filling the teeth?"

Ans. Yes, all that are good for preserving the teeth, as yet known.

Ques. 2d. "Does or does not such amalgam, in all cases when put into the cavity of a tooth, become oxydized on the surface?"

Ans. No. I know of no proof that it ever becomes oxydized. I have often seen amalgam fillings which have been in the teeth from 8 to 12 years without any sensible waste upon the surface, the cavities apparently as full as they ever were. The black color on the surface of amalgam fillings is probably a sulphuret formed by the sulphuretted hydrogen gas which always exists in impure mouths, when there are particles of animal matter in a state of decomposition. It has a strong affinity for both silver and mercury, and immediately tarnishes over the surface, as, for example, when a silver spoon is tarnished by boiled eggs. The black oxide of mercury is of a very delicate and evanescent nature, and must be kept free from pressure or exposure to light, or it is changed into the deutoxide, or red precipitate, or returns again to fluid mercury. In the form of the blue pill, the affinity of the mercury for silver is so great that when put in contact with it, the mercury immediately leaves the oxygen, and unites with the silver.

Ques. 3d. "Is not such an oxydization inevitably followed by blackness and brittleness of the tooth, indicating loss of vitality; and is not disease of the investing membranes and sockets a frequent accompaniment of such loss of life?"

Ans. We deny the oxydization,—when all caries, decomposed and decomposing matter are removed from the hollow of the tooth, there is no blackness caused by it, except when the tooth is so thin as to show the color of the filling through the translucent enamel, as when it is filled with tin foil, nor any brittleness or loss of vitality. Diseases of the investing membranes frequently follow the death of nerves in the teeth,—especially if such teeth are not properly treated,—but when properly prepared and filled with an amalgam, the investing membranes are much less liable to be diseased than when filled with gold, for the very simple and plain reason that the tooth is, as it were, hermetically sealed, excluding all irritating matter, without any pressure upon it, which is not the case when filled with gold, if the cavity is very large. This description of teeth embraces one class of "the certain cases" in which the amalgam has vastly the

superiority, as a preservative of teeth, over gold.

Ques. 4th. "Should mercurial amalgam be used under any circumstances, for stopping front teeth, where gold can be used; or should it ever be employed, either in the front or back teeth, in very young persons? If so, to what extent.

Ans. Never for front teeth, when gold can be used, nor when it cannot, if we regard the appearance of the tooth; for there are few persons who would not prefer an artificial tooth to a dark natural one. As it respects children, it is perhaps the best article known to be put into the deciduary teeth to preserve their crowns until the absorbents remove the roots, and if done before the nerve is reached by caries, it will not affect the vitality of the tooth.

Ques. 5th. "If amalgam is best for a mere shell of a tooth, why is it not available for all teeth, front and back, that will receive and retain it, for a stopping; or what can give this amalgam a superiority to gold in any one case, which will not equally extend to all cases?"

Ans. It is available and *will arrest decay in all cases as well as gold or any known material*; the only objection to its use is its color and tarnish on the surface. Its superiority over gold is only "in certain cases," one class of which has been mentioned, another is, when the sides of the teeth are so thin that gold cannot be forced in solid enough to remain—the amalgam being in the state of a paste, can be put in compact without force, when it soon hardens and effectually arrests the decay, and if the sides break away afterwards by eating upon the tooth, the amalgam, owing to its cohesive qualities, holding in one solid mass will answer the same purpose the original tooth did for mastication, and will last for years as I have often seen. Again, when the teeth are worn all around, as they frequently are, by gold clasps holding artificial teeth, amalgam is superior to gold for stopping the decay.

Ques. 6th. "Does not amalgam uniformly produce a diseased state of the mouth when used for the shells of front or back teeth of children?"

Ans. We frequently see diseased states of the mouth in children and adults, when there have been dead teeth filled either with gold, tin or amalgam, and quite as often when not filled at all. The diseased state is caused by irritation produced by dead matter in contact with the living tissues, like a sliver in the finger, and not by any filling contained in that dead matter. I deny that amalgam or quicksilver, in any form, can produce local disease, except when used in the form of an escharotic, such as corrosive sublimate or red precipitate.

Ques. 7th. "Should amalgam ever be used when gold can be perfectly and permanently secured in a tooth?"

Ans. Gold is more beautiful and much nearer the color of the teeth, and when they are slightly discolored by decay, it will restore them nearly to their original shade, and for this reason it should always be used for all

front and side teeth, at least as far back as they show.

Ques. 8th. "Can any man, knowing the difference between the two materials as stoppings for teeth, be either morally or professionally honest who declares amalgam to be superior to gold, and as such makes an indiscriminate or even a partial use of it for his patients?"

Ans. Yes: he may be perfectly honest, and by a judicious use of amalgam, may save many teeth for years, which could not be preserved as many months with gold, and which description of teeth Mr. Parmly sacrifices by a blind and bigotted prejudice. How then can the dentist be called honest or skillful who refuses to use it, or gentlemanly or charitable, who impeaches the motives of his professional brethren, as old, as honest, as skillful and intellectual as himself?

And now, Mr. Parmly, having answered the questions propounded by yourself, you cannot refuse me the same privilege, which you may answer or not, just as you please.

By what authority do you claim to be the Mentor and guardian of the public-teethward? Is it in virtue of letters patent that you boast of? if so, please publish them (but not without dates and names, as you usually do); or do you found your claims on what you boast to be "thirty years' unparalleled success?" Have you not signally failed to make out your case by the story of the cause of the death of Mr. Ames? (see Dr. Houston's report) and if so, are you not "chargeable with disturbing the *public peace*?" If your position, as it respects the *effects* of the amalgam, be true, why can you not find a few *living* cases out of the thousands in this city, and who have it in their teeth?

Does not your opposition to the use of amalgam, even "in certain cases," arise mainly from *party rancor*?

Is it not used by seven-eighths of the dentists in this city, "in certain cases," and in the same manner by all the dentists in Europe, almost without exception?

Have you not for a long course of years been quarrelling, or seeking such, with various of your professional brethren, especially in this city? Did not the boy who cried "wolf, wolf," too often, finally loose credit? and, finally, do you recollect, in the heathen mythology, the story of Icarus?

If I shall decline appearing before the public again in this controversy, it will not be on account of my being "unable to discuss the subject" *with you*. You brought my name before the public without my consent.

You have garbled, misquoted, and misrepresented a letter of mine, published in the Express of the 5th inst., besides which you are chargeable with discourteously and ungentlemanly impeaching the motives of all who differ with you in opinion on this subject.

How far what a forcible writer said of ar-

other person may apply to you, as far as your feebleness will allow, I leave the public to judge, viz. :—"He has laid it on so thick as to form an inextinguishable edifice. His pyramid of mendacity is bomb-proof. It is formed of fallacies upon fallacies, so imbedded in one another, that as long as one sentence remains in conjunction with its fellow, it will be found to contain a deception or misstate a fact. Nothing short of a verbal scrutiny of the *whole* could enable us to dispose of the perversions and falsehoods his statements contain, and here his own prolixity almost saves them." Now sir, in future you will please let me alone; and if you have the vanity to wish to appear in the public prints, you may, perhaps, find others who are willing to engage with you. I have it in my power to state that a review of this controversy may be expected from the able pen of Dr. Northall.

E. BAKER.

New York, June, 21, 1847.

NOT YET PROVED.

DR. PARMLY caused the re-publication of the death of N. P. Ames, Esq., with the view of making the impression upon the public that he died with a mercurial disease, produced by the escape of quicksilver from a mineral paste, composed of quicksilver combined with common silver, which was put into his teeth and came out "*a couple of years*" before his death. Now Dr. P. is in duty bound to sustain the impression which he has labored so hard to make upon the public, by undoubted witnesses. But "most unfortunately for him" he has not been able to procure a single witness to prove it. An "abused public" will require only the certificate of Dr. Bemis, if "*confirmed by an oath*." Now let Dr. P. obtain, and publish a certificate from Dr. Bemis, that Mr. Ames died with a mercurial disease, produced by the escape of quicksilver from mineral paste, composed of quicksilver and common silver combined. ("The identical article used in Mr. A.'s case," according to Dr. P.) which was put into his teeth in London, England; a "*couple of years*" before his death. Then, and not till then, will the intelligence of New York believe that Mr. Ames was killed in the manner in which Dr. P. has stated. We would refer the public to the report of Dr. Houston, who called upon Dr. Bemis since the death of Mr. Ames, which has not been contradicted.

Dr. P. challenges his opponents on the mineral paste question to prove that mineral paste is better than gold for the preservation of diseased teeth. But when we put forth the above challenge, we little thought he would so soon be compelled to acknowledge its superiority over gold in "*many cases*." The following is the Dr.'s testimony, under his own signature.

"I would here own the merit of F. H. Clark in stopping teeth with it, (mineral paste,) which I had failed to secure with gold; *there are many such*."

E. PARMLY.

No. 1 Bond st, May 31, 1847.

Will Dr. Parmly have the goodness to answer the following questions, for the benefit of an abused public?

Do the investing membranes of teeth ever become diseased, and alveolar abscesses follow after he has filled them with gold, and is not the gold the only cause of such disease?

Do teeth ever become painful after he has filled them with gold, and is not the gold the only cause of the disease?

Will all of the teeth which he has filled with gold be preserved from further disease around the filling, for *thirty years*?"

Are the teeth which are filled with mineral pastes the only ones which produce diseases of the antrum?

Has he refilled many a tooth, because it had decayed around the golden filling?

Could he have saved all of those teeth which have failed, after having been filled with mineral paste, with gold?

N. Y. Express.]

J. S. WARE,

29 Bond st.

COMMUNICATION.

When Mr. Ware informs himself of the causes of the illness of which Mr. Ames died, he will shape his communications differently; and when they are written with knowledge of facts and circumstances, and in *Truth*, I shall be pleased to reply to them, but not till then.

When my friends or the public want further testimony, than the handwriting of Mr. Ames himself, as to the effects of swallowing amalgam, I will, at any sacrifice of time, labor, or expense, endeavor to furnish it. When my enemies, false accusers, and slanderers want it, they may seek it where it can be found.

On May 31st ult., in an article published by me, I said that there was neither study, skill, art, nor science needed in stopping teeth with amalgam. Mr. Clark, having boasted of stopping teeth in which I had failed, I acknowledged *his merit, if he did so*, in so doing, but not "*the superiority of amalgam over gold*," as stated by Mr. Ware.

I wish all amalgam users particularly to understand, that, while I abhor amalgam, I not only give them all *due credit* for such performances—but I also wish the public to bestow upon them all they are entitled to for filling all such *shells*—"for there are many such," with wax, putty, or amalgam, each and all of which are used with equal facility and equal convenience—one requiring just as much skill and art as the other, and no more.

N. Y. Express.]

E. PARMLY.

THE EXAMINATION OF THE SEVERAL MATERIALS NOW IN USE FOR FILLING TEETH.

Continued from page 103.

The oft and repeated failures of gold filling to arrest the progress of disease in a

certain class of teeth—when performed by the most skillful—have stimulated those dental surgeons who desire to advance and improve their profession and to alleviate human suffering to examine into the causes of such failures, and, if possible, to find a remedy. Various articles for filling this class of teeth have been resorted to, but none has proved equal with Mineral Paste. Although many prejudices existed with the prudent and careful operator, when Mineral Paste was first introduced, yet experience has taught them that it is, nevertheless, a very valuable material, and it is gaining the confidence of the public in proportion as it is used by the competent dentist. And we hold in high estimation its preservative properties for the molar teeth of youth,—the soft, and those which have lost their dental nerves, of the molar class of adults. In all such teeth, it holds a superiority over gold for filling teeth. “Most unfortunately” for the improvement of our profession, that a few dentists, who *have had* the confidence of the public, should look upon the introduction of any new remedy as innovation, unless it should have first passed through their hands; or if, on its first appearance, they should have committed themselves against its use upon a slight or impartial examination, and then forever afterwards condemn it as unfit for dental purposes, for the simple reason that they have not the boldness, and generosity of character to acknowledge that they have erred in judgment. No honest dental surgeon will say that our profession has arrived to that eminence which is called perfection; and we pity the imbecility of those who are not able to learn anything more. The objections of the perfectionist against Mineral Paste are wholly unfounded, and, as far as any deleterious effects are produced, either upon the teeth or constitution, may be equally applied to gold. The perfectionist says that “teeth filled with Mineral Paste often do, and are always liable to ulcerate,”—hence it is necessary to extract them. It must be recollected, that the use of Mineral Paste in the hands of our best operators has been, until recently, confined to a class of diseased teeth which the perfectionist has refused to

fill with gold, thereby acknowledging that this class of teeth are beyond their golden influence. Therefore, if one half of this class of teeth are lost in the attempt to save them, it could not be made as an objection to the use of Mineral Paste, nor to an effort to save them. It is in many cases of great importance to an individual to save a mere “*shell of a tooth* ;” for it often happens that the only teeth which the individual has left to masticate with are those whose crowns have been so far destroyed by disease, as to render it impossible to fill them with gold; and such conditions of the teeth are not unfrequent, when every effort has been made by the most skillful in his profession to save them with gold. Under such circumstances, what course should the dental surgeon pursue? Shall he extract the only masticating apparatus his patient has left, or try his skill to save such important members. The “*honest*” dentist will try to save as long as there is hope; and if he uses the Mineral paste instead of gold, in all such cases, there is much to hope for—for experience has satisfied him that many such teeth have been saved for a long time with it. If we should condemn gold as unfit for arresting the progress of disease in teeth, because many teeth are painful after having been filled, either by the superior or inferior dentist, it would soon go into disuse: for all of the evils which are produced by Mineral Paste in the teeth are also produced by gold (except the tarnish). Every dentist knows that severe pain, high inflammation, alveolar abscesses, exfoliation, and diseased antrums are of as frequent occurrence when gold is used for filling teeth, as when they are filled with Mineral Paste.

To prove what we have stated on this subject, we will give a few practical cases.

Mr. ———, had two large molar teeth, on the lower jaw, decayed—the one on the right had been useless for four or five years. The disease had so far penetrated into the crown, that it had created considerable inflammation in the dental nerve, and at times it was very painful.—The nerve of this tooth was destroyed, the diseased portion carefully cut away, and then filled to the extreme point of the fangs, together with the crown,

with Mineral Paste. The disease in the left tooth had not penetrated to the nerve. The diseased portion of this was also carefully removed, and filled with gold. The condition of this tooth had never prevented its use, therefore it was considered a suitable subject for a golden filling. A few days after it was filled, it became painful when cold or heat, out of the ordinary temperature of the mouth, came in contact with it; and this condition continued to increase to such severity, that we were obliged to remove the filling, in order to reduce the inflammation. A few days of medical treatment was sufficient to remove it, when it was filled with Mineral Paste—and no further inconvenience was experienced. The right tooth, which was first filled with Mineral Paste, and had been useless for a long time, was put into immediate use, (in consequence of the painful influence of cold and heat upon the left, which contained the gold filling,) and without the slightest inconvenience. These teeth were filled in Feb., 1845, and have remained free from pain and healthy up to this, July 1st, 1847.

Case second.—Mrs. —, in the spring of 1842, had three large molar teeth filled with Mineral Paste, which had been condemned as past remedy by a dentist, who will not use it; and they have been up to this time free from inflammation, and as useful as any sound tooth; and, to all appearances, bid fair to remain healthy for many years, and perhaps they will last *"half a century."*—July 1st, 1847.

Case third.—Miss —, in the fall of 1841, had two large molar teeth on the upper jaw (the nerves of which were dead,) filled with Mineral Paste, to the extreme points of the roots; these teeth have been free from pain, useful and healthy, up to this date.—July 1st, 1847.

Case fourth.—Mrs. —, Whose teeth were in a very diseased state and who had suffered, as she expressed herself, "a hundred deaths with them," called upon us in the month of September, 1846, to learn if any thing could be done to alleviate her sufferings, without the loss of her teeth. After a careful examination of them, our answer was, that we believed she would be

wholly relieved without their loss, if she would have those which were very much decayed filled with Mineral Paste. To this she readily consented, and said that she was willing to have them filled with Mineral Paste, or any other material that would save her teeth and relieve the great suffering; for she had been greatly afflicted for several years—so much so, that she was confined a considerable portion of the time to her room. We put her teeth in as perfect a condition as the nature of her case would admit of. Eight of her teeth, (the large molars,) in which were large cavities, we filled with Mineral Paste—the front teeth were filled with gold.

This case is one of peculiar interest to the profession, for the diseased condition of the teeth had, to a great degree, effected the whole nervous system, which produced much prostration, and a great desire to remain inactive. And the pain was not confined to the teeth, but it extended to the face and head—but the remedy was successful. After her teeth were finished, the pain gradually left the face and head, and she has now been free from any suffering for several months, and has recovered her former health and activity. The teeth which were filled with Mineral Paste were less effected by cold and heat, than those filled with gold—and this has been our experience in all cases.—July, 1847.

We desire to call the attention of the profession to the subject of the influence of cold and heat upon the teeth which have been filled with gold and Mineral Paste, and hope they will send us cases for publication, which have come under their observation.

TOOTH-ACHE.

Under this head, we wish to call the attention of the profession to a certain condition of diseased teeth, and the treatment which we have adopted in our practice, and which, thus far, has exceeded our expectations. It is well known that teeth in which there are large cavities, and yet not penetrable to the dental nerve, when faithfully prepared and filled with gold, are often liable to become painful after a few weeks or

months, from apparently slight causes; a cold, a bilious state of the constitution, and, in many cases, an extra glass of wine will so excite the dental nerve that the pain is very severe. There are two conditions of this class of teeth; one will not be affected at all, either by external influences, such as cold and heat, nor by the ill health of the patient, when the other will be very painful from apparently no cause. The first, which remains free from inflammation after having been filled, are those in which the disease has not penetrated to the dental nerve, hence, not as liable to be affected after having been filled. It is not necessary that the bone should be softened, and the dental nerve actually exposed to produce inflammation and pain in that highly sensitive portion of the tooth, for the disease often penetrates the solid structure, causing a high state of inflammation to follow upon the dental nerve. The second class are those, where the disease has not softened the tooth deep enough to expose the nerve, but it has penetrated the solid portion to it. Teeth in such a condition are frequently painful from slight causes. It is to this class of teeth that we wish to call the attention of the profession. We have learned from experience that teeth, which have had their periods of aching from time to time for six months or more, will continue to ache after they have been filled by the skillful dentist with gold, unless the nerve is first destroyed and its cavity filled as perfectly as the nature of the case will admit of.—Therefore, our practice is, when a tooth has been painful from time to time, to remove the dental nerve before filling, although the disease has not softened the bone to one half the distance to it.

The kind of material with which we fill it depends upon the condition of the tooth, constitution, and age of the patient. Youth's and soft teeth in adult, we fill with mineral paste; but adults of a firm structure, with gold.

This class of teeth, when treated as above, we have found to be very durable, and, in almost every case, they have been free from any attack of inflammation.

Works on Operative and Mechanical Dentistry.—That a work on operative and mechanical dentistry is much needed, all we think will admit, and it gives me pleasure to inform the readers of the Journal that Prof. A. Westcott, M. D., of the Baltimore College of Dental Surgery, has, in progress of preparation for the press, a work of this description. It is to be devoted to operative and mechanical dentistry, in their minutia of detail, giving, in the form of notes, the principles involved in these departments, as also, the physical, mechanical and chemical properties of various substances used by dentists, together with their application to science and art. It will also be illustrated with numerous engravings.

We have also been recently informed that Dr. W. H. Elliot, of Montreal, L. C., is also engaged in the preparation of a work on operative and mechanical dentistry, to be illustrated with engravings. That Dr. E. will produce a valuable work, we have abundant assurance from his contributions to the art in the Journal. We have no doubt that both works will meet with a cordial reception from the members of the profession.—*Am. Jour. and Lib. of Dental Science.*

We publish in this No. an article of ours, connected with the amalgam war, and Dr. Parmly's reply to it. The Dr. refuses to answer a few simple and plain questions which we put to him. We also publish another article from the pen of Dr. P. and Dr. Baker's reply. Dr. Parmly seems to think that no one but himself has a right to inquire into the practice of dental surgery. He has put a series of questions to Dr. Baker, "demanding explicit answers;" but when Dr. B., and myself, return the compliment, he refuses to answer a single question, which clearly proves that he is unwilling to have his own gold fillings compared with the Mineral Paste of others.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 29 Bond Street, New York; or to Asahel Jones' General Agent, 263 Broadway.

Country Subscribers can have the Journal sent to them by mail, on the above terms.

All communications must be addressed (post paid) to the Editor.

The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.

Davis & Bell

NEW YORK DENTAL RECORDER.

DEVOTED TO THE THEORY AND PRACTICE OF
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol. 1.

AUGUST 1, 1847.

No. 12.

A Practical Treatise on the Operations of Surgical and Mechanical Dentistry. BY SAMUEL C. HARBERT, SURGEON DENTIST.

Modern Surgeon Dentistry may be said to have had its origin within the present century. If we go farther back, we find, with few exceptions, but little to instruct in the writings, or to admire in the practice of the professors of the dental art.

During the eighteenth century surgeon dentistry was practised, to considerable extent, on the continent of Europe, especially in France; but even here, the great mass of dentists practised as mere artizans, and without even the scanty light which their own writers had shed upon the science. "The gay and versatile French, wishing to keep up the appearance after they had lost the reality of youth, hit upon this device to erase, or smooth over, some of the most conspicuous foot-prints of advancing time. Relief from pain, preservation of health, increase of comfort—the more substantial and valuable benefits conferred by dentistry, were things of secondary importance with them. French quacks carried the art to England, where, for a long time, it was treated with ridicule, and yet was practised to some extent; until, at length, the great profits derived from the practice of it attracted the attention of the regularly educated surgeons, when its real utility secured the countenance of the public."

About this time, the celebrated John Hunter wrote his work on the natural history of the teeth, from the introduction to

which we learn the very contemptible opinion which he entertained of the dentist compared with the physician and surgeon. He does not appear to have regarded them as members of the medical profession, but as mere artizans, who are by no means to approach nearer than the outer gate to the temple of Esculapius, lest they get "*beyond their depth*," and meddle with "*matters of which it is to be supposed they have not acquired a competent knowledge*." We should have had more respect for the memory of John Hunter, if his views had been a little more liberal and comprehensive, and had prompted him to extend the hand of friendship and brotherly regard to the dentist, and instead of imposing, or endeavoring to impose, on him fetters to bind him down to all mere mechanical employment, he had encouraged him in the pursuit of science until the surgeon dentist attained an eminence where he could hail him as companion and brother. But, notwithstanding the *limited* instruction which Mr. Hunter was willing to furnish to the dentists of his own time, they were far from being contented with the "*shallow draught*" which he administered, the taste of which only tempted them to drink deeper from the "*Pierian spring*."

The dental surgeon, in the legitimate practice of his profession, is called upon to operate on the living tissues where physiological and pathological phenomena are constantly manifesting themselves, and which, without a correct knowledge of the principles of medical and surgical science, must ever remain an unsolved problem to him. Hence the inquiring mind will not and cannot rest until it has sought out

and become acquainted with those scientific principles which must regulate and guide him in all his operations.

The first important point to be understood is, a correct knowledge of the machine which he is to take charge of—to regulate, repair, and, in some measure, re-construct, whenever it becomes deranged from neglect, disease, or the ordinary or extraordinary wear to which it is constantly subjected. This includes an intimate knowledge of the anatomy of the teeth and adjacent parts.

He must also thoroughly understand the properties, uses, functions, and general appearance of the different parts in the normal condition, that he may contrast health with disease, give proper advice on the subjects of diet and regimen, and have at all times in his mind's eye a correct standard of perfect health and beauty. This can only be acquired by close observation and a thorough and critical knowledge of physiology.

The causes, *modus operandi*, and effects of disease must be investigated, which leads at once to the study of pathology; and here the inquiring mind will find ample scope, and a field which has hitherto been and still remains almost completely a *terra incognita*.

The successful treatment of disease, especially in the soft parts, requires that the student of dentistry should attentively study and acquire a thorough knowledge of the "principles of surgery," especially the whole doctrine of inflammation, and the most successful methods of combating, or assisting it in all its stages. Nor must he confine his studies to the parts which, in his peculiar province as a dentist, he will be called to operate upon. Such is the peculiar and intimate connection and sympathy which exists between all parts of the body, that a general knowledge of the whole is necessary to insure the successful treatment of any of its parts.

Local diseases almost always depend upon constitutional derangement, hence they are often cured by a course of alterative treatment, the administration of tonics, or a change of diet or regimen, when all

local applications have signally failed. Here we may, with some pertinence, ask,—how much more is required to make a thorough physician than a competent surgeon dentist? The rarest *gift*, however, we cannot say a requirement, for no study or application can produce it—that of mechanical tact and ingenuity remains to be added to the requisite qualifications of the dentist: without it he will soon find, whatever his other qualifications, that he has mistaken his calling.

Learned awkwardness in the field of dental surgery is often excelled by ingenious hands, which, but a few years before were toiling at the "lap stone," the vice, or the work bench, in the ordinary pursuits of mechanical labor.

Beyond doubt, the jewellers' shops have furnished more skillful dentists, in our country, than the medical colleges. It is this uninstructed mechanical ingenuity that has done more than anything else "to degrade the science of dental surgery to the level of a mechanical trade." Such is the facility with which men change their pursuits in these days, that this evil will continue to exist until some means are devised by which the great mass of the people may distinguish between the ignorant and the educated, the true artist and the miserable pretender.

Any ingenious jeweller or silversmith, who has become acquainted with the use of the file and the blow-pipe, may take up the work before us, peruse it carefully, manufacture for himself a few instruments, operate upon the teeth of a few of his kind friends and relations—who, being impressed with the idea that he is a wonderful mechanical genius, and that all that is necessary to make a good dentist is, that the individual should be a good tinker—are willing to submit to his manipulations, and he becomes at once a *dentist*, at least, perhaps, will not hesitate to style himself a surgeon dentist, and, prefixing the abbreviation of Doct. to his name, make his bow to the public, and without even the *show* of modesty which always attends true merit, boldly solicits a share of public patronage.

We have thus shown how hundreds of

dentists have originated among us, and may still continue to, by the assistance of practical treatises of this kind. Are we to prevent this evil by placing our candle under a bushel as many do? By no means. We would rather say, "let your light so shine before men that they may see your *good works*," in contrast with those which are not good, and they will soon "hold to the one and despise the other." The work before us contains useful hints, which will be new to many, and much practical information, and was undoubtedly written for the use and improvement of dentists, and not for common mechanics.

That our author may give his own reasons for appearing before the public, we quote the following extract from the preface to his work.

"It was designed, in the publication of this volume, to endeavor to fill an existing void in the mechanical part of dental practice, and at the same time, to aid the practitioner in dental surgery by means of the author's experience and research. That nothing more remains to be learned, or that the author has revealed all the known facilities of the art, he does not pretend; but, in the general principles, he has striven to impart, from his own practice, all he considers important and useful, which, with the judgment and skill of the artisan, he hopes will prove an important auxiliary in the duties of the office and laboratory.

"With regard to a full and explicit execution of purpose, more attention has been paid to perspicuity of style and manner, than elegance of diction, or perfection of language. A life of practical experience, exercised with the growing operations of the art, and in the theatre of its most successful experiments, form the basis of the writer's resources, from which he has drawn liberally and unreservedly, withholding nothing he considered important in the prosecution of the dental art,* and advancing no speculative theories calculated to deceive or bewilder the operator."

To practical men who have not the vanity to suppose that their own manner of operating is superior to any other, nothing can be more interesting and instructive than to compare it with the various methods pursued by others in the same profession. It is this which gives value to the work of Mr. Harbert. He has related in as concise a

manner as possible, his own way of performing all the common operations of the surgical and mechanical dentist, including the whole art of making porcelain teeth, refining and preparing gold to mount them on, recipes for solder, &c., &c., and all in 206 pages octavo.

Notwithstanding the increase of social and professional intercourse, which has taken place among dentists within the last few years, and which is partly owing to the formation of dentist's societies; there is still by far too little, and numbers, including many of our best and poorest operators, remain as completely isolated from their professional brethren as though each one was the only dentist in the land. When this is the case, each man must depend upon his own mental resources for advancement and improvement in his operations; and who is vain enough to suppose that, in this age, all the science, all the skill, and all the improvements and inventions in the dental art, exist in, and are made by, himself alone, unaided by any of his professional brethren? How often has the vain and superficial pretender to knowledge and genius, in our profession, been surprised to find *his own* wonderful inventions, and *his own* superior operations in the possession and practice of others, when he had taken a selfish pleasure in keeping them, as he vainly supposed, profoundly secret.

If our vocation is ever advanced or elevated to the rank of a liberal profession, it must be by reuniting it to that of medicine, where it most properly belongs: or, if this cannot be done, by endeavoring, at least, to imitate the medical fraternity in professional intercourse, and general diffusion of professional knowledge among all, even the most ignorant members; for these are the very men who most need to be instructed and improved before we, as a profession, can rise to that eminence in the estimation of the wise and good, which every worthy member, who has the honor and dignity of his profession at heart, must ever be ambitious to occupy. We repeat, the first, the best, and the only means of accomplishing this desirable end is, by social intercourse and professional liberality. The miserable

* Except the best recipe for Tooth Powder, which is "*reserved for his private use only*!"

policy of secrets and patents, for every simple improvement, must be abandoned, and knowledge must be as free as the air we breathe.

Let us meet together and form liberal societies in every considerable town or county throughout the land.—Let us discuss social, moral, and practical questions connected with our business.—Let us compare notes and opinions upon cases which have occurred in our practice :—in fine, let each possess himself, as far as in him lies, with the combined knowledge and experience of all, and we shall soon see that the effort will tell upon the dignity and respectability of the calling of the dental surgeon.

We have already exceeded the limits which we intended to occupy in noticing this work, and yet have said but little about it ; but have been led into the above train of thought from having recently heard several of our professional brethren express the opinion that an association of dental surgeons should be formed among the dentists in our city and vicinity.

The remarks of the author upon filing teeth to make room during second dentition, are sensible, as well as his opinions generally upon this important period, and the regulation of misplaced teeth, resulting from neglect during this period. In no case should the file be used upon the permanent teeth, except where disease or deformity exists. We would as soon think of giving medicine in a state of perfect health to prevent disease, as of filing sound teeth to prevent decay.

His remarks upon scaling teeth, diseases of the gums, and preparation of the mouth for artificial dentures, are very good, with the exception, that he does not allow sufficient time for the absorption of the gums and alveoli, when only one or two teeth are to be replaced, limiting the time from two to three weeks, when two contiguous incisors are to be inserted, and allowing a single one to be put in as soon as the gum closes.

Upon the subject of the manufacture of mineral teeth, he pays a well merited compliment to American skill and ingenuity,

upon the dentists manufacturing his own teeth, the following remark occurs :—

“ The dentist possesses a facility in making his own teeth that he cannot have if he buys them. Frequently he is required to supply deficiencies in teeth and gums, or to make teeth of a peculiar construction, which he might not be able to select from a large stock of ready made teeth, and can only furnish to his own, and the satisfaction of his patient, by having the means at home of making them.”

Here we agree perfectly with our author. All the trouble which we have had in fitting plates to the mouth, adjusting teeth to them, and giving entire satisfaction to our patients (and every mechanical dentist knows the difficulty in this branch of our business) has been nothing in comparison with the trouble and vexation in procuring proper teeth to set. In all our denunciations against tooth-makers, we could not wish to inflict a greater punishment upon them than to compel them to insert their own teeth in a useful and proper manner. Every dentist should, in our opinion, be able to manufacture, in his own laboratory, such teeth as he requires for his own use. Much practical instruction upon this branch may be obtained from Mr. Harbert's book.

Much upon the subject of the cause of caries, like the remarks of most authors upon this subject, which we have seen, is loose and unmeaning, and plainly shows that the author knows but little of the subject on which he is treating. We have never seen a satisfactory explanation of the causes of this disease. Our author has a severe “counterblast against tobacco,” which in our opinion has as much to do with decay of the teeth as a smokey chimney. The chapter upon filling teeth does not contain a sufficiently clear and concise description of the author's manner of operating, to be of much service to the readers, and upon the use of amalgam or mineral paste, he speaks plainly and will be considered by some a perfect heretic. He dares to recommend this compound in spite of all the warnings of Dr. Parmly, and the solemn edicts and protests of the American Society of Surgeon Dentists : but here we will permit our author to speak for himself :—

"Cement, for teeth, presenting a mere shell, or for roots that a patient may be anxious to retain, will be found highly useful, and not as objectionable as is generally imagined; it can be applied without the preparation that should be exercised previous to filling with other substances, and soon acquires a hardness that will resist any ordinary attrition. I have used it in large quantities, and have never found any bad effects from it; it is also used by many practitioners whose celebrity should entitle their judgment to some respect; by their practice, they must agree with me, in the utility and harmlessness of it; the small amount of mercury retained in the amalgam properly prepared, is proven, by actual experiment, to be about four grains* to the hundred, and in six or eight large cavities would not exceed the ordinary dose of mercury for an adult, taken into the stomach. It is prepared by granulating the silver with a fine file, and rubbing it with an equal amount of quicksilver in a small mortar; when sufficiently united it is to be transferred to a piece of sheepskin, and wrung as long as any of the mercury will ooze out. No more should be made at one time, than is needed for immediate use, nor should the same material be used a second time.

"It is only necessary in preparing a tooth for the reception of cement, that the extraneous matter be removed from the cavity; teeth filled with it, being almost worthless and very much decayed, will not generally admit of the same preparation that should be given to others less sensitive and worthy of a better substitute. This article should not be used in teeth, in which the living membrane is exposed; in the event of inflammation, owing to its solidity, it is with difficulty removed."

In the chapter of "Concluding Remarks," we find the following sensible sentence:—

"The too free adoption of every pretended discovery, plausible as it may at first seem to be, before it is subjected to the test of scientific investigation, savors of empiricism, and, as is unfortunately too often the case, is acknowledged and promulgated by those to whom subsequent inquiries prove the error and mistakes, that self interest or pride forbid them to acknowledge.

"It is by experiment, and the application of known principles to new purposes, that any art, mechanical or professional, receives the impulse that gradually leads it to perfection; to entirely discountenance which, would be at variance with the duty and requirements of all, whether immediately or indirectly interested. Therefore, when a discovery has withstood the necessary tests of its truth and applicability, it should be entitled to, and receive the reward of its merits."

* We have never been able to saturate the silver with mercury, without using more than ten times this quantity.

And, in our concluding remarks, we advise all our brethren in the profession, of dental surgery, to carefully peruse this book and compare the different methods of practice with his own, adopting those which are better, and rejecting such as are not so good, and to carry out the same principle in all his professional intercourse with his brethren.

C. C. A.

[For the New York DENTAL RECORDER.]

About four years since, I was called upon to attend to the teeth of a young lady who had been under the care of a well known dentist of this city—but with indifferent success, on account of the strong predisposition to decay which they manifested—many of them being hardly through the gums before their doom appeared certain. He filled their cavities with gold as fast as they were formed, but with scarcely any benefit; but, after repeated failures to arrest the decay with it, he tried mineral paste in the posterior teeth, but evidently with little or no hope of saving them; for he did not carefully prepare the cavities, and mineral paste eight years ago was not what it is now.

When she called upon me, I found the teeth (which were filled with paste) very dark around the filling, but no inflammation or tooth-ache had occurred in these teeth since they were filled. From this time, I had the care of her teeth, which were in a sad state about two years, and, with her careful assistance, treated them successfully.

Under these circumstances, I concluded to remove the paste fillings, on account of their dark appearance, and commenced with a first superior Molaris, which contained a very large one, covering nearly its whole grinding surface: but what was my surprise and regret that I had disturbed it, when I saw a *living, naked nerve beneath it, in perfect health, which had never given the slightest uneasiness since it was filled, which was more than six years.*

A question now arose in my mind whether I should destroy the nerve, extract the tooth, or refill it as it was, with the same

material. I chose the latter, after having carefully prepared the cavity and adopted means to prevent the amalgam pressing on the nerve.—I thought it most wise, however, to let the other amalgam fillings remain. And I have the gratification to add, that I saw my patient last week, and she was in the enjoyment of the most perfect health, and her teeth and gums in much better condition than they had been for many years, although she had been much frightened by an eminent dentist of this city.

I have, within the last two or three years, seen several cases almost similar to the one above, and can say, most positively, that in no case have I seen a tooth which had been well filled with mineral paste, manifest any bad symptoms which are not common to teeth filled with gold or tin, under the same circumstances, (discoloration alone excepted.)

I fought against, (and in some cases, I am now aware, wronged) those who used mineral paste, for six years, but was fairly vanquished by the evidence of my own senses about three years ago.

F. H. CLARK, Dentist,
218 Ninth street.

July 20, 1847.

ANOTHER CASE.

Mrs. J., a lady of the highest respectability, from Louisiana, educated in the convent in Baltimore, called on me about two years ago, professionally; she had lost nearly all of her molar teeth, which had been extracted early. During my examination, I called her attention to the right superior second molaris, (standing alone,) which had a large black spot on the side next the cheek.—“That,” said she, “is a tooth which has for many years done my principal mastication, and which Mr. Laroque, (a popular dentist of Baltimore,) wanted to extract when I lost the others about ten years ago. At last he proposed to fill its cavity with cement, saying,—‘it will possibly be useful a short time.’” It is good now, and one thousand dollars would not buy it.

The opponents of mineral paste consider the saving such teeth by its use, practising upon the credulity of an “abused public;”

they would extract them. I have thought proper to leave it to their own choice.

F. H. CLARK,
218 Ninth st.

July 20, 1847.

TRUTH.

Dr. E. Parmly says in his communication of May 31, 1847. “I would here own the merit of F. H. Clark in stopping teeth with it, (mineral paste,) which I had failed to secure with gold; *there are many such.*” And, in his card of the 3d of July, he also says, Mr. Clark having boasted of stopping teeth in which I had failed, *I acknowledge his merit if he did so* in so doing, but not the superiority of amalgam over gold, as stated by Mr. Ware. The qualification, *if he did so*, cannot be found in the card of Dr. P.’s of May 31, although it appears in *italics* in the one of July 2d. Such things speak for themselves, and need no comment from my pen.

I would most respectfully ask Dr. P. what he understands by the term superiority of one material over another for the preservation of diseased teeth, if it is not to be applied to the material which does positively preserve, when another fails to do so? And thus it stands acknowledged, under Dr. P.’s own signature, before the public, that amalgam in the hands of F. H. Clark, Esq., did succeed in certain cases, which Dr. P. and his gold “*had failed to secure,*” and that there were “*many such.*”

Dr. P. repeats in his communication, of July 2d, a communication which he published May 31st, which reads thus, “I said that there was neither study, skill, art, nor science needed in stopping teeth with amalgam.” And yet the Dr. “*acknowledges*” that with all his “study, skill, art, science,” and gold, he fails in many cases to arrest the progress of disease, in which amalgam is successful.

The Dr. seems to think that it requires little or no skill to arrest the progress of disease in a tooth, when it has destroyed a large portion of its crown, or reduced it to a mere “shell.” Therefore he calls all the dentists “dishonest” who save such teeth with mineral paste; but the public do not agree with the Dr. on this, to them, important question. They believe that much more skill and science are necessary to arrest disease, when far advanced upon its victim, than to stop its progress when the tooth is but little affected. The Dr. says “that when *his friends*, or the public, want further testimony than the handwriting of Mr. Ames, himself, as to the effect of swallowing amalgam, I will at any sacrifice of time, labor, or expense endeavor to furnish it.” The public are well satisfied as to the effect, for Mr. Ames says, that he “*felt no immediate bad effects*, and it was not until three months after the “*new fashioned mineral paste*,” of London, came out, that salivation commenced. Mr. Ames says that his teeth were filled with a “*new fashioned mineral*” paste about the 1st of July,—and he

was taken ill the 1st of October following, which would make three months, but as there is no date of year to this letter, written in Paris, on the 10th of October,—perhaps he was not taken ill until the second October following, which would make *one year and three months*. But if he was taken ill on the following October it is sufficient to set aside all the evidence, which has been produced to prove that he died with a mercurial disease, produced by swallowing “a new fashioned paste.” For, before the salivation could be fastened upon the “*new fashioned mineral paste, of London*,” it must be first proved that he had not taken any preparation of mercury into the stomach, or applied it externally, during the three months from the 1st of July to the 10th of the next October. And I deny that Mr. Ames was salivated at all by this new fashioned mineral paste of London, (England) which the dentists in this country know nothing about. It will now be very readily understood that Mr. Ames’s letter, of which Dr. P. boasts so much, proves nothing at all. Again I call upon Dr. P. to prove that Mr. A. died with a mercurial disease, produced from swallowing a “*new fashioned mineral paste*,” and also to explain the following paragraph, which appeared in his communication of July 2d, and referring to mine of the 1st: “And when they are written with knowledge of facts and circumstances, and in *truth*, I shall be pleased to reply to them.” It is not for myself or any other person to know anything about the cause of Mr. Ames’s illness and death,—only as presented by Dr. P., it is for *him*, and not any one else, to prove that he died from the cause which has been published under his own signature, and to this an “*abused public*” will hold him. Dr. P. says that “gold is the only substance which he is acquainted with, that will remain for half a century or more, without changing in the slightest degree, *preserving the teeth with health and beauty*.”

It was in consequence of the above statement of Dr. P’s. that I put several questions to him on the subject of gold and its preservative properties upon decayed teeth, and confined myself to his own operations to prevent the excuse that if any failure occurred the operations were not faithfully performed. And as he first set the example to propound grave questions, he cannot, with any degree of propriety, refuse to answer them.

Dr. P. in his article of June 4th, put certain questions to Dr. Baker, on the manufacture, use and effects of amalgam upon the teeth and constitution, “*demanding explicit answers*.” “I, therefore, in behalf of the profession and the public demand explicit answers” to several questions put to him in my article of July 1st, on the use of gold as connected with the art and science of Dental Surgery, which he refused to answer in his communication of July 1st. Dr. P. must not think that my language is severe, for he gave the “challenge,” and put the weapons into my hands; therefore he cannot complain when I use them. All of the quotations are from his own pen. It would seem from Dr. P’s. communications, that his

whole effort in appearing before the public, has been to excite their sympathy in his favor, and to prejudice them against all who use mineral paste, rather than discuss the question upon scientific principles. For he has much to say about a “generous public, who appreciate his motives”—and his “*enemies, false accusers, and slanderers*.” Such a course is well calculated to excite sympathy for the one, and prejudice to the other. Therefore, in behalf of the profession and the public, who may honestly differ with Dr. P. on this subject, it would say, that I know of no one who is his “*enemy, false accuser, and slanderer*.” And it does appear strange that Dr. P. should look upon every one who may not think as he does, on this use of mineral paste, as his enemy,—and that, too, after he had admitted that mineral paste did succeed, in certain cases, where he had failed to save with gold. In consequence of Dr. P. having so much to say about his “*enemies, false accusers and slanderers*,” he is in duty bound to define who they are, and in what their slander consists. No man should make an attack upon another, charging him with dishonesty in his profession, without first being able to prove the accusation. Such a course must be looked upon by all the high-minded and honorable in society, as an uncalled for and high-handed measure. Now, Dr. P. has made such a charge against many of his professional brethren, who are his equals in professional skill and science. And he has not only charged them with dishonesty in their practice, but endeavored to injure them in their business, by “*warning*” the public “*not to employ them*.” The following is his own language, published in the Tribune, of May 27th: “Many of the readers of your paper will recollect that during the past five years I have endeavored to warn them against employing Dentists who use quicksilver, combined with common silver for stopping teeth.” “I again say, fearlessly, that I have no confidence in the professional honesty of any man who will use it.”

I now call upon Dr. P. to sustain this charge of “*dishonesty*” upon his professional brethren.

It is the duty of every professional gentleman to use such materials, for the preservation of the teeth, as will best secure that end—be it gold or mineral paste; and the only evidence we have of the value of any material for that purpose, is from experience. Now, what has experience taught the unprejudiced, and observing Dental Surgeon? It is this: that mineral paste has preserved, for many years, in a useful condition, thousands of teeth which were so far destroyed by disease, that all hope of their recovery was given up by those Dentists who use gold only,—and without any injurious effects, either upon the teeth or constitution. I once had strong prejudices against the use of mineral paste,—but experience and the examination of the subject compelled me to admit my error; and I now use it in all cases where I believe it will best serve the interest of my patient, and shall continue to— notwithstanding the “warning voice” of Dr. P.

Gold should always be used for front teeth, and also for the double, unless there are reasonable objections to it; which may consist of the following:—1. Teeth, whose crowns have been so much destroyed by disease, that gold cannot be placed in their cavities with a sufficient degree of firmness to make a good filling. 2. Cavities, which are shallow, and cannot be made of the proper shape to hold the gold, without cutting away a considerable portion of the sound tooth. This class is a very important one, for no portion of the sound bone should be removed when it can possibly be avoided. 3. Teeth, with feeble constitutions, the bony portion of which is soft,—such teeth decay very fast around the gold filling, owing, no doubt, to the very severe pressure which is necessary to make the gold compact and firm. This class of teeth are preserved much longer with the mineral paste. 4. Youths' teeth, which are another important class, when decayed—where mineral paste is "better than gold." All the bones of the human system, while growing, are less firm, and their vessels much larger than when matured,—hence, a gold filling in a youth's tooth lasts but a few years, (except in cases where the cavity is very small,) while in the adult of 30 or 35, it remains a long time, and it may, if the tooth is firm, cavity small, and the operation faithfully performed, last "half a century." 5. The primary teeth, when decayed, should always be filled with mineral paste, for in this class of teeth experience has taught me that it is much "better than gold," and not in the smallest degree injurious to the teeth or constitution. And, in order to satisfy the public that I am "honest" in the opinions which I have expressed, and the practice which I have adopted, I will, with Dr. E. Parmly's consent, fill teeth with him, in the presence of Dr. Patterson and Mott. The Dr. shall furnish one patient, and I will the other. The Dr. filling one or more of the cavities with gold for each of the patients, and I will fill like cavities, and the same in number, with mineral paste, "*composed of quicksilver and common silver combined.*" This plan will settle the whole question in dispute. But if filling teeth should strike Dr. P. unfavorably, I will suggest another plan, which will decide the controversy in less time; it is this: I will discuss the subject of Mineral Paste, in reference to its preservative or non-preservative properties upon diseased teeth, and its harmless or injurious effects upon the constitution, before a committee of medical and other scientific gentlemen, who may be chosen by a friend of his and mine, on consideration that the result of their deliberations shall be published in several of our city papers. Now if it is true that mineral paste will (according to Dr. Parmly's theory) "*rapidly oxidise,*" and this black oxide of mercury destroy both teeth and patient, he will have a fair opportunity to prove it.

J. S. WARE,

29 Bond street.

New York, July 7, 1847.

[To the Editor of the DENTAL RECORDER.]

Parmly's Improved Alcoholic Blow-pipe

The great fatigue and exhaustion produced by soldering teeth upon large plates, with the ordinary mouth blow-pipe, has induced almost every dentist to contrive some substitute which will heat up the work and at the same time flow the solder. Different modifications of the alcoholic blow-pipe have been used for several years, many of which answer a very excellent purpose. A very convenient and beautiful apparatus has been recently contrived by Mr. J. Parmly, combining the alcoholic blow-pipe and an apparatus for melting metals for castings, with several improvements.

The whole is contained in a neat jannaped tin case, some twelve inches wide by ten or twelve in height. In the lower part of the case (the whole front and top of which can be opened) is a flat reservoir, covering the whole bottom of the case, and containing at least a pint of alcohol. In the centre of this is soldered a tube of three-eighths of an inch calibre, containing a wick, made of a roll of muslin, and extending out of the tube about one inch. Over this tube is fitted another which, by means of a lever attached to it, may be raised or depressed at pleasure, which expands or contracts the flame. A few inches over this is another reservoir containing from one to two quarts of alcohol, and which also occupies the whole size of the case except a space from one to two inches in width, extending from the front backwards beyond the centre, through which is suspended (by the cyphon) a spherical brass boiler, three or four inches in diameter, hanging in the centre of the case, midway between the two reservoirs and directly over the lower burner extending down almost to the wick. In the top of this boiler, a little to the right is inserted a brass tube, which is the long arm of a cyphon containing a stop-cock near the arch, and the short arm of which is secured in the top of the reservoir. On the corresponding left side of the boiler is inserted the brass blow-pipe, which passes up over the top of the reservoir and is then curved down so as to point in a horizontal direction, directly towards the other burner, which is constructed with the sliding ring, like the lower one, and situated on the left side of the upper reservoir, from which it is supplied with alcohol.

When the dentist desires to use it, the first thing is to introduce into the boiler as much alcohol as he wishes to use at that time. To

do this the stop-cock in the cyphon is to be opened, the mouth placed at the extremity of the blow-pipe and all the air exhausted from the boiler. This causes the alcohol to flow through the cyphon into the boiler; the quantity of which is regulated by time. Thus, if he has several pieces to solder, it may run two minutes; if only one, half a minute, &c.: then the cock is turned and shuts off all communication between the reservoir and the boiler. It is then ready for use. When the soldering is over the finger is placed, upon the extremity of the blow-pipe, the stop-cock opened, and the heat of the lower burner drives all the alcohol remaining in the boiler over into the reservoir, and the boiler is again empty. The advantage of this is that the dentist can always introduce into the boiler just the quantity that he desires to use, and is never embarrassed by having his flame give out when he has half done soldering, nor is he obliged to waste time by heating more alcohol than he wants to use. Another advantage which Mr. Parmly's improvement has over the common alcoholic blow-pipe is the convenience of regulating the flame, which, in one moment, may be changed from the largest to the smallest size. There is a small apparatus connected with it, by means of which metal may be melted for a zinc casting in ten minutes. For sale by Jones, White & Co., 263 Broadway.

PRACTICAL CHEMISTRY.

In the mass of documents that were printed and laid before the late National Medical Convention, there was one prefaced thus:—"The following opinions are respectfully submitted to the Medical Convention for their consideration, with a hope that they may be approved." Neither its origin nor any action upon it are remembered; but accidentally finding it in a collection of things laid aside for future examination, we were delighted with the sound doctrine it inculcates. "As chemistry and anatomy," says its author, are the fundamental branches of medical science, any attempt to give a medical education in which they should be neglected, would be like attempting to erect a superstructure without a basement." The fact is undeniable that chemistry has been neglected in some of the schools, notwithstanding the extraordinary interest it is creating at the present moment in Europe. Whether this has grown out of the false idea that it could or would not be of much service to a medical practitioner, or not, is uncertain. But the impression seems to

have been very general, that anatomy, surgery, theory, and practice were the prominent departments, and chemistry, like symphonies in church music, was thrown in for effect, and not on account of its importance. With the death of Sir Humphrey Davy, the beautiful science which gave immortality to his name, and which was immensely enlarged in boundaries under the fosterings of his genius and perseverance, began to languish, at least where it should always be considered indispensable, viz., in schools of medicine. This is not the first occasion we have taken to advert to the subject of the neglect of chemistry;—and if we have slumbered of late over it, the communication to the Convention has fairly awakened us again to a deep sense of what should be insisted on by the professors of medical institutions—a competent knowledge of practical chemistry.—*Boston Med. and Surg. Journal.*

CASE OF POISONING BY CAMPHOR.

By Dr. O. E. BROWN, of Brandenburg, Kentucky.

Mr. A., a stout, robust man, on the 27th of January, 1847, bought an ounce of gum camphor, had it put up in paper as usual, placed it in his pocket, and went to church. While there he would frequently pinch off small pieces and chew and swallow them, not noticing the quantity taken. After church he, with his father and brother left town for home. When they had proceeded about one mile on their way, the two brothers were riding together, when suddenly the one who had taken the camphor drew up his bridle as though he was going to stop his horse, threw himself back and fell to the ground. Upon going to his assistance, they found that he was powerfully convulsed; in a short time, a second and a third convulsion followed. A gentleman passing at the time, who was in the habit of bleeding, bled him, conveyed him to the nearest house, placed him in a warm bath, and gave him some medicine. He remained speechless, and perfectly unconscious of all that was going on for several hours. After some hours he gradually recovered his speech, but stated that he could not recollect any of the transactions of the evening on which the accident happened. He remained stupid, languid, and rather wandering all next day, but gradually recovered his former condition, and has enjoyed his health and spirits as usual since.

The foregoing history I derived from the father of the individual affected. The weight of the camphor sold by the druggist was ascertained, and on weighing it again

it appeared that it had lost *one hundred and ten grains*. It may be concluded, therefore, that the young man had swallowed something like that amount of the substance.

[*Western Med. and Surg. Jour.*

Anniversary of the Massachusetts Medical Society.

At 10 o'clock, on Wednesday last, the Fellows of this Association met at the Masonic Temple, in this city, for the transaction of the usual business. The Counsellors were elected for the various districts, the list varying but little from that of last season, with the exception of Suffolk, in which several unexpected changes were made. At 1 o'clock, Dr. John Ware, of Boston, delivered the annual discourse, which was replete with wisdom and practical good sense. He has a happy method, in writing upon any subject, of giving it both interest and importance. As soon as the discourse appears in the published annals of the Society, further notice will be given of it. Dr. Ware has but just recovered from a severe indisposition, and therefore was hardly in a condition to address a large audience. The dinner was served at Faneuil Hall. Not far from four hundred medical gentlemen dined as though they enjoyed the meal, which was altogether superior to the indigestible one that was dished out to them in 1846.

A meeting of the Counsellors was held at the Society's rooms, on Thursday, to hear reports of the various committees, and to elect officers for the ensuing year. The Board was unusually full—a circumstance that was particularly gratifying to the friends of the institution. Among other reports, was one recommending the publication of a quarterly Journal, under the auspices of the Society, to be gratuitously distributed to the members, commencing in January next, provided the annual cost does not exceed fifteen hundred dollars. Dr. Alden, of Randolph, on the first ballot, was elected President, but on account of ill health, chose not to accept the honorable trust. Subsequently, Zadock Howe, M. D., of Billerica was elected President; Edward Flint, M. D., of Leicester, Vice President; J. B. S. Jackson, M. D., Corresponding Secretary; Alex. Thomas, M. D., Recording Secretary; M. Gay, M. D., Librarian; and Z. B. Adams, M. D., Treasurer. Not being able to procure the names of all the gentlemen composing committees, boards of censors, &c., nor a correct catalogue of the Counsellors of the various districts of the Com-

monwealth, those in the County of Suffolk only are published, who are as follows:—Drs. Geo. C. Shattuck, John Jeffries, Wm. J. Walker, W. Lewis, Jr., G. W. Otis, J. Flint, C. H. Stedman, J. V. C. Smith, H. I. Bowditch, Harwood, H. B. C. Greene, A. Thomas, M. S. Perry, G. Bartlett, W. Strong, S. Morrill, D. H. Storer, E. Palmer, Jr., J. Odin, M. Gay, H. Dyer. Luther V. Bell, M. D., is the orator for 1848.—*Boston M. & S. Journal.*

✍ This No. closes the first volume of the Dental Recorder, and we are happy to say to our friends and numerous subscribers that its patronage has far exceeded our expectations, for which they will please accept our warmest thanks. The first No. of the second volume will be published on the first of September; and we hope the profession will take sufficient interest in its success and usefulness, to furnish valuable and interesting matter for it. The only way to improve and elevate our profession is by combined effort, and exchange of thought. Let us have cases reported for the Recorder, from those who have been long in the profession; then we shall be able to compare the results of our eminent and experienced operators, which will be of great value to those who have had less experience.

In consequence of the increased demand, and the want of room for miscellaneous matter, we shall enlarge the Recorder to double its present size. The price will also be increased to two dollars per annum.

This Journal will be issued on the first of every month, at One Dollar a year, in advance. City Subscribers will be regularly served at their residences, by sending their names to the Editor, 29 Bond Street, New York; or to Asahel Jones' General Agent, 263 Broadway.

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The first number of the Journal will be sent to the address of all the Dentists whose names we have been able to obtain, throughout the United States and Europe; but will not be continued, unless we are in the receipt of One Dollar.

We issue the Journal at the very low price of One Dollar a year, so that it may be within the reach of all who feel disposed to take it; and we have the vanity to believe that every family who will take it, cannot make a more profitable or advantageous appropriation of One Dollar—for particular attention will be paid to the Children's Department, which is an important branch of Dental Science.